



UNIVERSITY OF
CAMBRIDGE

Faculty of Education



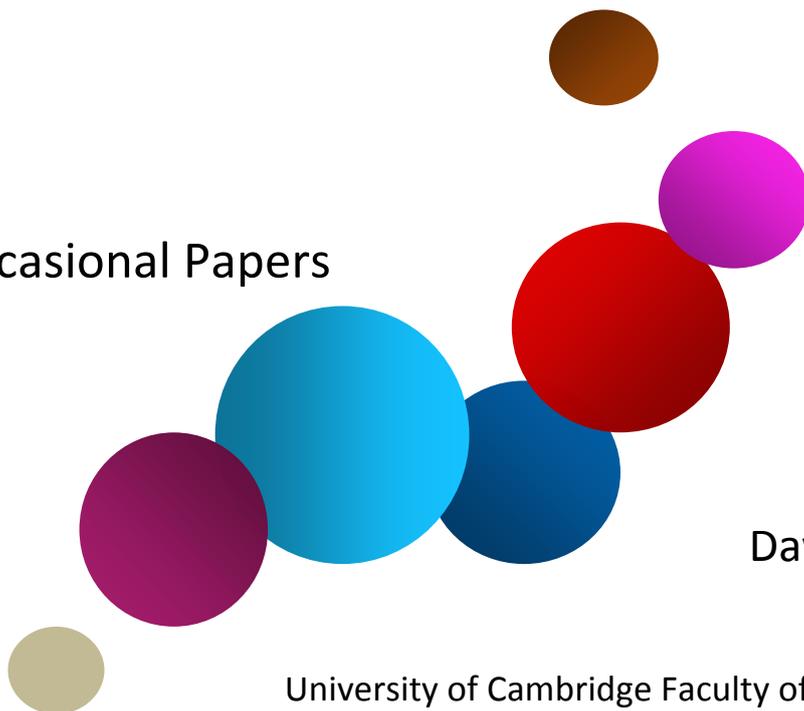
LEADERSHIP *for* LEARNING
The Cambridge Network

Teacher-led development work: a methodology for building professional knowledge

HertsCam Occasional Papers
April 2013

David Frost

University of Cambridge Faculty of Education
and HertsCam Network



Teacher-led development work: a methodology for building professional knowledge

David Frost

About the author

David Frost is a member of the Leadership for Learning group at the University of Cambridge Faculty of Education. He is also the Programme Director for the HertsCam Network, serving teachers and schools. The aim of the network is: 'Supporting school development through teacher leadership'.

Publication details

This paper is the first in a series published by HertsCam Publications in association with the Teacher Leadership journal published by LfL at the University of Cambridge Faculty of Education.

The paper is published as a downloadable e-book / pdf document and can be downloaded at www.hertscam.org.uk

ISBN: 978-0-9576374-0-5

Copyright © 2013 David Frost

This paper should be referred to like this:

Frost, D. (2013) Teacher-led development work: a methodology for building professional knowledge, HertsCam Occasional Papers April 2013, HertsCam Publications, www.hertscam.org.uk.

Abstract

The genesis of this paper lies in the need to assist teachers who may want to explain and justify their work as leaders of change and creators of professional knowledge. It charts the development of the teacher-led development work methodology and identifies its influences before going on to clarify the model as it has evolved within the HertsCam Network. Key dimensions such as leadership, enquiry and knowledge-building are discussed. It concludes with a brief account of the evaluation and dissemination of the approach, highlighting its significance in the pursuit of a democratic way of life.

Acknowledgements

I am grateful to the following people for their comments on drafts:

Sheila Ball, Hornsey Girls School, Crouch End, London

Paul Barnett, Barnwell School, Stevenage

Caroline Creaby, Sandringham School, St Albans

Val Hill, Birchwood High School, Bishops Stortford

Jo Reed, Howe Dell School, Hatfield

Gordana Miljevic, Centre for Education Policy, Belgrade

Jo Mylles, Sir John Lawes School, Harpenden

Amanda Roberts, University of Hertfordshire

Paul Rose, John Henry Newman School, Stevenage

Contents

About the author	i
Publication details	i
Abstract	ii
Acknowledgements	ii
Contents	iii
Introduction	1
Problems with the concept of the teacher-as-researcher	1
The language of development planning	2
The Reflective Action Planning model	3
Evaluating the RAP model	4
The teacher-led development work model	5
Addressing the impact challenge	6
A certificate level programme	6
Clarifying the TLDW methodology	7
Enquiry as a leadership strategy	8
Knowledge-building	9
Two kinds of knowledge creation	10
Mode 2 knowledge	10
The social context of knowledge-building	11
The imperative of culture-building	12
Evaluating TLDW	13
Sharing our approach internationally	14
References	15

Introduction

I want to argue here that *teacher-led development work* is an effective and valid methodology for creating professional knowledge. It is an alternative to research methodology which is commonly assumed to be the only valid basis for knowledge. Teacher-led development work is also a useful way to construe teacher leadership in that it can provide a framework for teachers' design and leadership of projects where the intention is to improve professional practice and create knowledge about such improvement. The concept is founded on a personal conviction that teachers have a major role to play in educational innovation. When I taught in schools it seemed clear to me that leading innovation was not only necessary to improve the effectiveness of the school but also profoundly satisfying. These values had become central to the professional identity I carried with me when I changed my occupational context from school to university in 1986.

Problems with the 'teacher-as-researcher' concept

In the late 1980s and early 1990s I worked with collaborators in schools to try to find ways to realise my professional values in practice. I was influenced in my thinking partly by my own experience as a teacher involved in innovatory programmes such as 'Man, a Course of Study' (MACOS) (Bruner, 1966) and partly by the academic work emanating from the Centre for Applied Research in Education at Norwich University (CARE). CARE was directed by Lawrence Stenhouse; the team included John Elliott and Jean Rudduck. Stenhouse's seminal book (1975) promoted the concept of the teacher-as-researcher, which is an idea I had embraced as a teacher in the early 1980s. However, when I came to facilitate teacher research as a university teacher, I discovered inherent problems.

At that time, the teacher-as-researcher idea was being embraced by universities as a basis for their masters courses. However, from my vantage point as an examiner of masters assignments in several universities I was able to see that teachers' research often failed to produce significant change in practice beyond the individual's professional development. In spite of references in teachers' written assignments to the action research literature in which change and development are foregrounded (e.g. Elliot, 1991), teachers' accounts

often described project work that was individualistic and small-scale with a lack of impact on the school as a whole.

This low level of impact may be explained to some extent by a lack of coherence and synergy within the school, the organisation failing to harness such research for school improvement purposes. However, what is also problematic is that the norms and language of research running throughout the huge volume of research methodology literature tend to draw teachers away from the challenge of leading change. Accounts of practitioner research often feature the idea of 'findings' arising from some kind of empirical investigation. These findings are then reported with the vain hope that someone in authority will act on them. In other words the responsibility for leading change is left to someone else (Frost, 2006, 2007), someone who is perceived to have the power, authority or ability that leading change requires.

In contrast, the teacher-led development work approach seeks to enable teachers, regardless of any position in the organisational hierarchy, to lead processes of development. Successful teacher-led development work projects have immediate impact on practice and capacity. They also lead to changes in the routines and structures of the school such that improvements are embedded and sustained.

The language of development planning

The appeal of the teacher-as-researcher mode of development remained limited to those who found the rather more contemplative environment of the university a liberating alternative to the increasingly pressurised world of schools. It seemed to me at that time that there was a clash of language. Schools were becoming accustomed to school audit, development priorities, action plans and INSET focused on those plans. In the 1980s the Department for Education and Skills (DfES) was pushing the idea of 'development planning' (Hargreaves and Hopkins, 1991). Against this back-drop, the language of the teacher-as-researcher sounded indulgent and inward-looking.

In the early 1990s I began to develop alternative strategies for enabling teachers to lead change. Jean Rudduck's work on educational change was encouraging.

If we are interested in substantial curriculum change, we may need to find structures and resources to help teachers to re-examine their purposes and feel more in control of their professional purposes and direction. Some sense of ownership of the agenda for personal action is, in my view, a good basis for professional development and professional learning.

(Rudduck, 1988: 210)

I used this quotation in a chapter of a book in which I put forward a model that I had been developing in schools from 1989 onwards (Frost, 1995). I labelled the model 'reflective action planning' in an attempt to strike a chord with the language of the time.

The Reflective Action Planning model

Many of the principles of teacher-led development work were embedded in the reflective action planning (RAP) model (Frost, 1995, 1997). They centred, for example, on supporting teachers through participation in workshops in which they would use tools such as facsimiles and formats to help them clarify values, identify professional concerns and negotiate action plans with colleagues as a preparation for leading an enquiry-based project.

Having grown out of an award-bearing course, the idea of a project was there from the beginning. What is a project? A project is initiated by an individual; it has a beginning, a relatively short lifespan and a conclusion, a shape which most easily matches the shape of the academic year. It also makes a good fit with the pattern of university postgraduate certification. However, a distinctive approach to certification in the RAP model was that the award was based on a portfolio of evidence rather than the traditional academic essay or dissertation.

The model had weaknesses however; for instance, the emphasis on reflection tended to encourage an individualistic perspective and the idea of professional enquiry did not address the need for leadership of the process of change. In addition, participants tended to drift into a tendency to see the audience for their work as the university rather than the school itself.

Evaluating the RAP model

In order to evaluate the model in action, I established a small research group which included a retired headteacher, a teacher on maternity leave, a deputy headteacher and a head of a science department. The evaluation led to the book 'Teacher Led School Improvement' (Frost *et al.*, 2000) in which the concept of teacher-led development work was explained.

(in this book) ... each of the following dimensions – collaboration, systematic inquiry, changing practice, professional learning, and documenting the process – are dealt with in turn. However, it is important to regard them as all part of an integrated whole.

(Frost *et al.*, 2000: 47)

The discussion that followed this statement focused on the management of change, drawing heavily on Fullan's work. Here was the first glimmer of the more pronounced and explicit rhetoric about teacher leadership which became more substantial subsequently.

One of the clear messages arising from studies of school effectiveness is that strong leadership is an important determining factor in school improvement (Sammons *et al.*, 1995), but an emphasis on the role of the headteacher is unhelpful if it obscures what has been learnt about the positive benefits of shared leadership (see Mortimore *et al.*, 1988; Angus, 1993). Fullan's account of 'change agency' and the 'moral purpose' of education supports his claim that 'all teachers are change agents' (Fullan, 1993) and this is an important text in exploring the proposal that reflective action planners have first to accept the challenge to exercise leadership.

(Frost *et al.*, 2000: 55)

The use of the term 'teacher leadership' echoed what was becoming established in the USA (York-Barr & Duke, 2004), but with important distinctions. In America, the assumption was that leadership should be exercised by particular teachers who had been designated and trained as teacher leaders. In our own usage, the words of Michael Fullan quoted above - 'all teachers are change agents' - more accurately reflected our practice. Another distinguishing assumption for us was that, for teachers, project work is a useful vehicle for leading change.

The teacher-led development work model

Following this, it was clear that the idea of reflective action planning needed to be overhauled, updated and developed, which I set out to do in collaboration with Judy Durrant who had been the research assistant on the project that led to the book cited above. In the book that arose from that overhaul, we were explicit about teacher leadership which we linked to ideas such as capacity building, shared vision and agency (Frost and Durrant, 2003a). The model was now clearly labelled 'teacher-led development work' which was said to require a balance of three dimensions: a) 'managing change through collaboration', b) 'gathering and using evidence' and c) 'experimenting with practice'. The final stage of the model had become 'transforming professional knowledge'.

Teacher-led development work generates professional knowledge, that is to say, information, understanding, and skills. The individual teacher leading the development work increases not only their personal capacity, their stock of knowledge and skills, but also their capacity to engage in collaborative work. The development work can also impact on their colleagues' personal capacity and on organisational learning. Headteachers and Principals have a clear responsibility to manage this process of 'knowledge creation and transfer' and to ensure that the school derives the maximum benefit from teachers' development work. Beyond the school, the stock of what we know as a profession can also be transformed through teacher-led development work provided that the teachers concerned are able to share what they have learned through networking and publication.

(Frost and Durrant, 2003a: 26)

The HertsCam MEd began in 1999 following agreement between David Hargreaves who had been the Head of Education at Cambridge, and Ray Shostak who was Director of Education for Hertfordshire. In its original form, the course was not modelled on the concept of TLDW but on the MEd that had been in operation at the Faculty of Education for many years. That model was a mix of presentations of university-based research programmes such as the 'Learning how to learn project' (James *et al.*, 2007) and support for course members' projects based on the principles of practitioner research. Guidance on methodology was entirely derived from educational and social science research methodology literatures. Within a year of the beginning of the 'Herts MEd', the founders, David Hargreaves and Mary James, moved on to other endeavours and I assumed responsibility for the programme.

Addressing the impact challenge

In the early stages of the development of the HertsCam MEd, the issue of *impact* was raised. The local authority, obliged as they were to account for the expenditure on the course fees, wanted to know what impact it was having. In response to this, a small-scale research project was devised to develop categories that can be used as a basis for planning, analysis and reflection. These emerged from a series of interviews with teachers in a number of sites who identified themselves as leading development work. A summary of the impact framework appears below.

A summary of the impact framework

Impact on pupils' learning

Attainment / Disposition / Meta-cognition

Impact on teachers

Classroom practice / Personal capacity / Interpersonal capacity

Impact on the school as an organisation

Structures and processes / Culture and capacity

Impact beyond the school

Critique and debate / Creation and transfer of professional knowledge / Improvements in social capital in the community

(Frost and Durrant, 2002, 2003b)

Since then, this framework has underpinned the design of tools and activities to enable teachers to plan, track and evaluate the impact of their development work as it is taking place. This framework and associated tools have been used in a variety of different ways, not only by individuals but also by schools wishing to assess the impact of various initiatives as part of their self-evaluation programmes.

A certificate level programme

Impact was also addressed by creating an alternative programme which would still be award-bearing but not as intense and academically challenging as the MEd. This new certificate level programme would be funded by the schools directly, and, in order for it to be appealing to a wide range of teachers, it would be school-

based, with workshops held at convenient times immediately following the end of the teaching day.

The initiative for this programme had come from one of the schools, Sir John Lawes School, where Jo Mylles wanted to use teacher-led development work as part of the senior leadership team's culture-building strategy (Mylles, 2005). The idea quickly caught on such that by 2006 there were at least ten TLDW groups in a variety of types of schools.

Clarifying the TLDW methodology

The use of the term 'methodology' should *not* be interpreted as an indication that teacher-led development work is a *research* methodology. While it might be argued that any process that leads to an extension of knowledge should be regarded as research, the term is used here simply to refer to the process through which a teacher is enabled to lead development work which improves practice and creates or enhances professional knowledge.

Within the HertsCam TLDW programme, the step-by-step approach that had been developed earlier was further clarified:

- Step 1 Values clarification
- Step 2 Identification of professional concerns
- Step 3 Negotiation and consultation to clarify the focus of the development work
- Step 4 Project design / action planning
- Step 5 Negotiation and consultation to clarify the action plan
- Step 6 Leadership of a process of enquiry-based development work
- Step 7 Networking to contribute to professional knowledge

This process has two dimensions. In one dimension, teachers work through the steps in a deliberate and reflective way. In the other dimension, facilitators provide structured support that enables the teacher to identify an appropriate focus for a project and to

operationalise it in such a way that it will be successful in bringing about improvements to practice.

Central to the model is the idea that facilitators and the teachers they facilitate will use tools to structure and support reflection, discussion and planning. Tools such as formats, vignettes, guidance sheets, facsimiles, metaphors in the form of visual images, and planning templates provide the necessary scaffolding within workshops. It is necessarily a collaborative enterprise in order that participants can benefit from the mutual challenge and support derived from working as members of a group. Discussion within the TLDW group or in the MEd workshop is crucial.

Enquiry as a leadership strategy

A key feature of the methodology of teacher-led development work is enquiry. This includes both the exploration of appropriate literatures and the collection and analysis of data or evidence. However, underpinning this must be the preparedness on the part of the teacher to raise questions about practice and to scrutinise, in an open-minded way, those assumptions and routines that have become taken for granted in the teacher's school. Such scholarly dispositions and values may seem to be at home within the world of the university, but it is crucial that they are deployed in the pursuit of professional goals rather than merely to satisfy academic curiosity or further the goals of social science.

In the teacher-led development work model, enquiry is necessarily construed not as research, but as a leadership strategy; that is to say, the gathering and interpretation of evidence within collaborative situations is used to stimulate and support reflection, evaluation, deliberation and decision-making. Dialogue, consultation and voice are essential dimensions of the methodology.

The challenge for the project leader is to develop the leadership skills necessary to persuade colleagues to participate and to provide ongoing support and scaffolding necessary to ensure the process is fruitful. The desired outcome is improvement rather than mere understanding and such improvement is not narrowly instrumental, rather, it builds organisational capital by enhancing dialogue. This is a sustainable approach to school improvement that keeps alive an intense and purposeful conversation about learning in which the views of students, parents and others are sought.

It is a mistake to assume that rigour and critical rationality are the sole preserve of research methodologies. Although the academic market is flooded with research methodology literature, we should not be fooled into thinking that it is the only valid resource for explaining and justifying what teachers can do to develop practice and create professional knowledge. In fact there are many literatures on which we can draw for this purpose. These include those such as: innovation, leadership, action learning, appreciative inquiry, organisational learning, change management, professional development, knowledge management and so on. To this list could be added genres perhaps less familiar in the field of education such as 'service design' which Jonathan Baldwin has taught at the University of Dundee (vimeo.com/31874141). Similarly, the concept of 'practice development', commonplace in health services, is another genre which teachers could draw on to explain and justify their work as change agents and knowledge builders (McCormack, Manley & Titchen, 2004).

These literatures can be drawn upon as resources to support the use of enquiry strategies to bring about change and improvement. They are also helpful when putting forward a reasoned defence of teacher-led development work as a valid approach to the creation of professional knowledge.

Knowledge-building

The final step in the 7 step model outlined above focuses on contributions to professional knowledge. The importance of knowledge management to school improvement was highlighted by David Hargreaves in the 1990s. In a milestone article in 1999 he rightly urged university staff to assist teachers in developing the capacity for knowledge creation, although, at that time, he put rather too much faith in the idea that this could be achieved through training in research skills (Hargreaves, 1999).

In the professional context, practitioners plan, enact and evaluate their practice in the light of their 'theories in use' (Argyris and Schon, 1974). This roughly equates to the idea of *personal knowledge* which is: 'the cognitive resource which a person brings to a situation that enables them to think and perform' (Eraut, 2000: 114). Embedded in our everyday practice is knowing what and knowing how, or, to put it another way, our personal knowledge includes both *propositional knowledge* and *procedural knowledge* (Eraut, 1994).

As teachers we add to this knowledge and refine it through the trial and error of practice, but it is also extended through reflection on the fresh propositions that arise from enquiry and discussion. We can say therefore that teacher-led development work leads to the extension of professional knowledge in two ways: first it generates, in the flow of the development process, new or improved practice. Second, a shared account of that development work contributes to the discourse within the professional community.

Two kinds of knowledge creation

In the first case, those immediately involved in the development work examine aspects of their practice systematically; they consider different explanations and alternative solutions to problems. They experiment with new techniques, strategies, materials and tools and, through evaluation, develop their practice. This innovation is not just the tacit knowledge acquired through experience (Polanyi, 1967), rather it is explicit and documented. It corresponds to some extent with what has been called *double-loop learning* in which problem solving leads to new routines in our institutions (Argyris and Schon, 1978). This kind of knowledge can be discerned by asking the question: 'what do we do differently now?'

In the second case, accounts, in the form of stories or narratives, are shared, both within the school and beyond. Accounts of development work lead to insights which those who hear those accounts can apply to their own situations; they may adopt specific tools or techniques for use in their own practice, but perhaps more importantly they may acquire new ideas, understanding and value positions. In other words they might gain 'practical wisdom'. This type of knowledge is always provisional and always sensitive to context.

Mode 2 knowledge

Arguably this approach to knowledge production can be regarded as 'Mode 2'. In the 1990s this was heralded as a new paradigm of knowledge production which is socially distributed, application-oriented, trans-disciplinary and subject to multiple accountabilities (Gibbons *et al.*, 1994; Nowotny *et al.*, 2003). Mode 2 was conceived as an alternative to knowledge creation through university-based

research which is validated by academic peer-review. In Mode 2, the validation of knowledge is rooted in the social context. Pragmatic validity (Kvale, 1995) is concerned with the extent to which knowledge solves practical problems and makes sense to people who use the knowledge.

The social context of knowledge-building

In a positivist epistemology, knowledge is codified or formalised and held in the public domain in the usual range of academic texts. In contrast, my working assumption is that professional knowledge is a property of the social context; it can be discerned in the exchange of accounts and ideas between people in a network or other social group. This kind of knowledge is continuously growing and taking shape and cannot be nailed down. It is manifest within a live discourse.

HertsCam has made a great deal of progress in recent years with regard to knowledge building. The use of this particular term rather than the term 'knowledge management' (Collison & Parcell, 2004) indicates the particular dialogic nature of the process where members of the network present their work to each other and provide reciprocal critical friendship. A major context for knowledge building has been developed over the past 5 or 6 years in the form of a programme of network events and an annual conference (Wearing, 2011).

The launching of the *Teacher Leadership* journal in 2007 was a significant extension of our knowledge-building in that it provided a means to capture accounts of teachers' development work and make them available to other teachers worldwide, thus giving teachers a voice within the public discourse about education reform (Frost, 2008). This has now developed an online presence – the *Teacher Leadership Blog* - which can be accessed at: <http://www.educ.cam.ac.uk/centres/lfl/>.

It has become apparent through our experience of networking that knowledge-building in such social contexts carries with it an additional dimension which is the cultivation of moral purpose. This is discussed in the report on the International Teacher Leadership project.

(The cultivation of moral purpose)... could be said to be even more important than the passing on of technical tips and key insights. The stories that teachers share when they come together to network can be regarded to some extent as performing a similar function to that of a parable; in other words, they are narratives that carry with them a moral message.

(Frost, 2011: 27)

The inspiration, encouragement and sense of collective self-efficacy that such story-telling nurtures is an invaluable dimension of knowledge-building.

The imperative of culture-building

The way that teacher leadership and knowledge-building are related is explored in a recent article (Frost, 2012). The theory presented there includes a third element which is 'culture building'. It is argued that, in order to be able to undertake development projects, teachers need active support from their colleagues and in particular from the senior leadership team. There is a growing body of evidence that illuminates the role of senior leaders in facilitating teacher leadership (Andrews and Lewis, 2004; Mylles and Frost, 2006). Activities include making additional time available or helping to facilitate opportunities for collaboration, but the more fundamental task is concerned with culture-building or creating the conditions in which teacher leadership can flourish (Frost, 2004). This remains a significant challenge for teacher-led development work because projects begin with the commitment of individual teachers rather than the strategic intervention of the headteacher.

As a methodology, teacher-led development work is often taken to be merely an approach to professional learning. However, in the TLDW model, such learning is not limited to the individual; it is extended to colleagues, the school as an organisation and members of the teaching profession more widely. This can only be achieved when teachers are enabled to take on the challenge of the leadership of collaboration and it is this that has to be rendered problematic and subject to critical reflection.

Evaluating TLDW

Programmes that support teacher-led development work have been subject to evaluation and empirical study on a number of occasions. For example, Jo Mylles compared the operation of the TLDW programme in two different schools (Mylles, 2005, 2007). Val Hill studied the impact of the programme in her own school (Hill, 2008, 2011) as did Caroline Creaby a few years later. Martin Lee's study of the TLDW programme as a whole contributed to a comprehensive evaluation of all the activities of the network carried out for the HertsCam Steering Committee in 2011 by Vivien Wearing (2011).

The evaluation study provided the material for a special issue of HertsCam Voice, the network's newsletter, which included accounts from headteachers about the benefits of their school's participation in TLDW.

Sir John Lawes School has participated in the TLDW programme continuously since 2003 and this comment from the headteacher, Claire Robins, indicates how it has played an important part in the development of the professional culture there.

HertsCam has at its core democratic values which challenges those with power and influence in schools to commit themselves to liberating the talents and agency of teachers who can then support students' learning. This is what leadership is for - to enable teachers to make a difference so that students can grow, develop and achieve more than might ever have been expected.

(Claire Robins in HertsCam Voice, March 2011)

Birchwood High School became involved in 2004 and the headteacher, Chris Ingate is clear that TLDW has made a significant contribution to the school's trajectory of improvement.

In Birchwood's year-on-year improvement from a satisfactory school with 750 students to one now pushing for 'outstanding' with 1400 students, HertsCam and its work with our teachers has been one of the most influential contributory factors.

(Chris Ingate in HertsCam Voice, March 2011)

Paul Barnett, deputy headteacher at Barnwell School, became involved in HertsCam in 2002 and has enabled teachers at his school to engage with TLDW since 2004. Paul also drew attention to the contribution of TLDW to teachers' development and their place in the

school as professional community.

Supporting teacher leadership and enquiry-based development gives our staff a sense of ownership and optimism. It's all about collective self-efficacy.

(Paul Barnett in HertsCam Voice, March 2011)

This comment echoes the point I make on page 1 about the satisfaction that teachers derive from exercising leadership. This is a key factor in teacher recruitment and retention, one which policy makers should heed.

These evaluation studies have been helpful in contributing to our understanding of how we can develop the practice of enabling teacher leadership. They have also enabled us to clarify and document our practice so that it can be shared more widely.

Sharing our approach internationally

As we have become more confident in our understanding of teacher leadership and how to support it, we have been able to respond to the interest shown by a variety of visiting academics and activists in NGOs (non-governmental organisations) abroad. It has been encouraging to see the TLDW concept being enthusiastically embraced by colleagues in other countries. The International Teacher Leadership (ITL) project based on the HertsCam approach has been taken up by partners in 15 countries and continues to thrive.

One of the most significant insights to have arisen from the ITL project is the part that teacher-led development work can play in contributing to democratic ways of life through bottom-up knowledge building (Frost, 2011). It is largely for this reason that our work has been promoted by the Open Society Foundation which focused its efforts for a time on the Western Balkans. In that post-communist region the formal constitutional basis of democratic society had been established, but there remained work to be done to nurture the values and educational practices that enable a democratic way of life to truly flourish. The wounds inflicted by the conflicts that followed the break-up of Yugoslavia have not yet healed and so there is a great deal of work to be done to develop approaches to reform which are participatory, collaborative, inclusive and person-centred.

In the UK we may take for granted our 'civil society', characterised as

we might hope it is by dialogue, mutual respect, fair dealing and the like, but there is no room for complacency. These values have to be continuously cultivated and renewed in the face of increasing pressure from global competition, economic hard times, political extremism and inter-ethnic conflict.

The question of the legitimacy of different ways of creating professional knowledge is in my view a critical dimension of the pursuit of a more democratic way of life. I hope that this clarification of the methodology of teacher-led development work helps to address this question.

References

- Andrews, D. and Lewis, M. (2004) Building sustainable futures: emerging understandings of the significant contribution of the professional learning community, *Improving Schools* 7 (2) pp. 129-150.
- Argyris, C. and Schön, D. (1978) *Organizational learning: A theory of action perspective*, Reading, Mass: Addison Wesley.
- Bruner, J. S. (1966) *Toward a Theory of Instruction*, Cambridge, Mass.: Belkapp Press
- Collison, C. and Parcell. G. (2004) *Learning to fly*. Sussex: Capstone.
- Creaby, C. (2011) *Developing a teacher leadership programme in a secondary school*, unpublished M.Ed thesis, University of Cambridge Faculty of Education.
- Elliott, J. (1991) *Action Research For Educational Change*, Buckingham: Open University Press.
- Erault, M. (2000) Non-formal learning and tacit knowledge in professional work, *British Journal of Educational Psychology* 70, pp. 113–136.
- Erault, M. (1994) *Developing professional knowledge and competence*, Abingdon: RoutledgeFalmer.
- Frost, D. (1995) 'Reflective Action Planning: A Model For Continuing Professional Development' in Frost, D., Edwards, A. & Reynolds, H. (eds) *Careers Education and Guidance*, London: Kogan Page, pp. 93-104.
- Frost, D. (1997) *Reflective Action Planning for Teachers: a Guide to Teacher-led School and Professional Development*, London: David Fulton Publishers.
- Frost, D. (2000) Teacher-led School Improvement: Agency and Strategy, *Management in Education*, Vol. 14 (No. 4 pp 21-24 & No. 5 pp 17-20).

- Frost, D. (2006) 'Action research, school improvement and teacher leadership', paper presented at the 30th Anniversary Conference of The Collaborative Action Research Network. University of Nottingham, 10-12 November 2006.
- Frost, D. (2007) 'Practitioner research and leadership: the key to school improvement', in Coleman, M. and Briggs, A. (eds) *Research Methods in Educational Leadership and Management* (second edition), London: Paul Chapman, pp. 173-188.
- Frost, D. (2008) Teacher Leadership: values and voice, *School Leadership and Management* (Special issue on Leadership for Learning) 28 (4) pp. 337-352.
- Frost, D. (2011) *Supporting teacher leadership in 15 countries: the International Teacher Leadership project, Phase 1 - A report*, Cambridge: Leadership for Learning University of Cambridge Faculty of Education.
- Frost, D. (2012) From professional development to system change: teacher leadership and innovation, *Professional Development in Education* (special issue on Teacher Leadership and Professional Development) 38 (2) pp. 205-227.
- Frost, D. (2004) 'What Can Headteachers Do to Support Teachers' Leadership?' *Inform No 4* Occasional papers published by 'Leadership for Learning: the Cambridge Network August 2004
- Frost, D. and Durrant, J. (2003a) *Teacher-led Development Work: guidance and support*, London: David Fulton Publishers.
- Frost, D. and Durrant, J. (2003b) Teacher Leadership: Rationale, Strategy and Impact, *School Leadership and Management*, 23 (2) pp 173-186.
- Frost, D. and Durrant, J. (2002) Teachers as Leaders: Exploring the Impact of Teacher Led Development Work, *School Leadership and Management*, 22 (2) pp 143-161.
- Frost, D., Durrant, J., Head, M. and Holden, G. (2000) *Teacher-led School Improvement*, London: RoutledgeFalmer.
- Fullan, M. (1993) Why teachers must become change agents, *Educational Leadership* 50 (6) pp.12-17.
- Gibbons, M., Limoges, C., Nowotny, H., Schwartzman, S., Scott, P. and Trow, M. (1994) *The new production of knowledge: the dynamics of science and research in contemporary societies*. London: Sage.
- Hargreaves, D. H. (1999) The knowledge-creating school, *British Journal of Educational Studies* 47 (2): pp. 122-144.
- Hargreaves, D. H. and Hopkins, D. (with Leask, M.) (1991) *The Empowered School: The management and practice of development planning*, London: Cassell.
- HertsCam Voice (2011) The newsletter of the HertsCam Network can be accessed at www.hertscamnetwork.org.uk.

- Hill, V. (2011) Evaluating a strategy for enriching the professional learning community of a secondary school through support for teacher leadership, *Teacher Leadership* 6 (3) pp. 59-69.
- Hill, V. (2008) *A teacher-led development work group: evaluating a strategy for enriching the professional learning community of a secondary school*, unpublished MEd thesis, Cambridge: University of Cambridge faculty of Education.
- James, M. et al. (2007) *Improving Learning How to Learn in Classrooms, Schools and Networks*, London, Routledge.
- Kvale, S. (1995) The Social Construction of Validity, in *Qualitative Inquiry*, 1 (1) pp. 19-40.
- Lee, M. (2011) The evaluation of teacher leadership in a Teacher Led Development Work programme. unpublished MEd thesis, University of Cambridge Faculty of Education.
- McCormack, B., Manley, K. and Titchen, A. (eds.) (2004) *Practice development in Nursing and Healthcare*, Oxford: Blackwell Publishing
- Mylles, J. (2006) 'Building teacher leadership through Teacher Led Development Work groups', *Teacher Leadership* 1 (1) pp. 4-11
- Mylles, J. (2005) *Developing teacher leadership: an exploration of an award bearing teacher-led development programme*. Unpublished MEd thesis, University of Cambridge Faculty of Education.
- Mylles, J. and Frost, D. (2006) Building Teacher Leadership in Hertfordshire, *Improving Schools*, March 2006 pp. 69-76
- Nowotny, H., Scott, P. and Gibbons, M. (2003) 'Mode 2' Revisited: The New Production of Knowledge, *Minerva* (Special Issue)
- Polanyi, M. (1958) *Personal Knowledge: towards a post-critical philosophy*, London: Routledge Kegan Paul
- Polanyi, M. (1967) *The Tacit Dimension*, New York: Doubleday.
- Rudduck, J. (1988) 'The ownership of change as a basis for teachers' professional learning', in J. Calderhead (ed.) *Teachers' Professional Learning*, Lewes: Falmer Press.
- Stenhouse, L. (1975) *An Introduction to Curriculum Research and Development*, London: Heinemann Educational Books.
- Wearing, V. (2011) HertsCam: an evaluation 2011, a report commissioned by the HertsCam Steering Committee (this can be accessed at www.hertscam.org.uk)
- York-Barr, J. and Duke, K. (2004) *What Do We Know About Teacher Leadership? Findings From Two Decades of Scholarship*, *Review of Educational Research*, 74(3) pp. 255-316.