

Building Etopia here : a socially interactivist e-community of practice for learners of all ages

**An auto-ethnographical study
of a socio-cultural web-based artefact**

**Doctor of Education
Institute Focussed Study
September 2006**

Christina Preston

Culture, Language and Communications' School,
Institute of Education, University of London,
20 Bedford Way, London, WC2A 0HL

Abstract

This thesis focuses on the developing role of e-communities of practice in transforming teaching and learning based on evidence from the MirandaNet Fellowship, established in 1992. This international organisation makes practice-based research a key process in building a professional database and influencing policy on the use of Information and Communications Technology (ICT) in education.

Two aims inform the thesis. The first is to explore the ways in which the MirandaNet Fellowship has impacted on members continuing professional development (CPD) over the last fourteen years. The second aim is to investigate in which ways the ethical approach of this professional organisation has influenced the international world e-citizenship activities.

This data, which spans fifty years, is organised in three periods. The Past, 1950 – 1991, is an auto-ethnographical account of the influence of technology on views about learning by the MirandaNet founder, and author of this thesis. This section covers critical incidents her childhood, her education, her teacher training period and her first years of teaching. The data from the Present, 1992 – 2005, covers varied evidence from members about their learning. The Future, from 2006, looks at the learning trajectories of members of all ages who are building the international Etopia project.

The analysis draws on a descriptive framework which categorises the data across four key headings which relate to five selected MirandaNet projects : the digital affordances under investigation ; key critical incidents for a lead learners; the cumulative and iterative roles of the participants in the CoP and the engagement in the social cultural communicative strata of discourse, design, production and distribution.

The analysis builds towards an understanding of changes in the pedagogical models developed during the life of the Fellowship. Key findings show that the professional influence exercised by the organisation is moving from the input of individuals to collaborative web-based interaction. Overarching this finding is the increasing evidence for the application of web-based affordances for ethical purposes.

Table of contents

Chapter One : Researching a brave new world

International focus of the study

Rationale

Research questions and themes

Literature review

- organising themes

- developing active professionalism in an e-community

- e-community responsibilities in world e-citizenship

Methodology

- mixing positivist with post-modernist with etopian

- choosing an accessible style

- the collection and organisation of the data over fifty years

- the roles of the educators in this story

- the choice of critical incidents

- the dilemma for researchers who are change agents

Descriptive framework

Chapter Two: Framing the data

How Chapter Two is organised

The Past : birth of brave new world, 1955-1992

- Phase One : mysteries of a mainframe 1955-1984

 - activity

 - affordances of the digital tools

 - critical incident

 - learning model

 - communicative strata

- Phase Two: Learning by design 1985 – 1988

 - activity

 - affordances of the digital tools

 - critical incident

 - learning model

 - communicative strata

Phase Three : Expecting the unexpected¹ 1989 - 1991

critical incident
learning model

The Present: Building towards Etopia 1992 - 2005

Phase One : a community of partners

Toshiba Laptops for Teachers 1992-1998

background
project
digital affordances under investigation
key critical incident for lead learners
role of the participants in the CoP
communicative strata
dominant learning model

Phase Two -transformational learning for students only

Think.com : 1999-2001

background
project
digital affordances under investigation
key critical incident for lead learners
role of the participants in the CoP
communicative strata
dominant learning model

Phase Three : An self-regulating e-community impacting on policy, theory and practice : Teachers as Researchers 2002 – 2005

background
project
digital affordances under investigation
key critical incident for a lead learner
role of the participants in the CoP
communicative strata
dominant learning model

Etopia – a future direction 2006

Phase One : Braided e-communities creating theory policy and practice

background
project
digital affordances under investigation
key critical incident for a lead learner
role of the participants in the CoP
communicative strata
dominant learning model

Chapter Three: Understanding the potential of the Etopian ideal

How Chapter Three is organised

A discussion of Etopian issues
the emergent pedagogical models

Active professionalism in an e-community
the interactive and cumulative roles of Fellows
critical incidents for members
engagement in the socio-cultural strata of discourse, design, production, and distribution
self assessment issues
key affordances of digital technologies in transformation

E-community contribution to world ecitizenship

Conclusion
professional relevance of Etopia
dissemination of the research
recommendations for further research

Invitation to Readers

Acknowledgements

References

Endnotes

List of figures

Figure 1: A table tracing the emergence of MirandaNet's pedagogical models

Figure 2: The Mystery of Computers

Figure 3: Authoring Resources

Figure 4: The Record Shop 1987

Figure 5: Working with Developers

Figure 6: Teachers as Experts

Figure 7: The First MirandaNet Self-Assessment Tool

Figure 8: Litchfield's Account of a think.com Pilot

Figure 9: The Second MirandaNet Self-Assessment Tool (Stage 1)

Figure 10: The Second MirandaNet Self-Assessment Tool (Stage 2)

Figure 11: The Second MirandaNet Self-Assessment Tool (Stage 3)

Figure 12: Braided Learning E-journal Icons

Figure 13: The Braided Learning Metaphor

**Figure 14: A Sequence Sharing Professional Responses to Braided
E-learning On-line (Cuthell 2005)**

**Figure 15: Etopia, Design for a Website being developed by Students at the
Westminster Academy, London, in partnership with Logica-CMG
Developers**

**Figure 16: Multilayered index for 'Fascinating Cultural Objects' : Multi-Modal Mapping
in Teaching and Learning.**

Figure 17: A Teacher's Blog

**Figure 18: A Sequence of MirandaLink Messages Used to Fight
Blackboard Inc's Efforts to Establish a Patent.**

Figure 19: A Critical Incident for a Mother and a Teacher

Figure 20: Learning Gains from the Teachers a Researchers Course (Earle 2004)

Chapter One

Researching a Brave New World

The international focus of the study

The MirandaNet Fellowship e-community, founded in 1992, the focus of this study has been variously described as a community of inquiry (Dewey 1916), community of practice (Wenger, McDermott et al. 2002), a knowledge forum (Scardamalia and Bereiter 1996) and an e-community of practice with 'an active and passionate core' (Dewey 1916; Scardamalia and Bereiter 1996; Wenger, McDermott et al. 2002; Stuckey 2005). Currently more than four hundred members in forty three countries are a mixed group of educators, ICT policy makers, teachers, teacher educators, researchers and commercial developers who are passionate about the use of digital tools in democratic methods of teaching and learning. Two hundred and fifty peer-reviewed Fellowships have been awarded to scholars for peer-reviewed contribution to the MirandaNet e-journal : a diary, seminar presentation, case study or the design of a multimedia digital artefact (Preston and Cuthell 2000 - 2006). More than one and a half thousand international page requests are made by educators who want to share this practitioner-authored knowledge every day. This indicates the value of the resources for other teachers.

Course members often join the Fellows after submitting an article at the end of MirandaNet Continuing Professional Development (CPD) programme in Information and Communications Technology (ICT). Other members join on the web or by invitation in order to take an activist role in education by contributing to debate on key issuesⁱⁱ.

The rationale

This study aims to contribute to global debates about the relationship between the affordances of digital technologies and shared learning developments in e-communities in two ways. The first aim is to explore the opportunities to encourage active professionalism in an e-community which includes building a knowledge base

and the pedagogy of digital tools. The second aim is to comment on the responsibilities of an e-community to contribute to world citizenship.

This optimistic stance is commented on by Leask, who has been influential in the development of teachers' networked communities like TeacherNet and the MirandaNet Fellowship. She explores a struggle between modernist optimism and post-modernist pessimism that has been evident in teacher professionalism since the 1980s. Leask, rejects these polarities. Instead she advises acceptance of uncertainty, the struggle between chaos and order, as a necessary element in human endeavour. In particular, she notes that this conflict appears in the kind of designs for systemic change in education that Fellows are engaged in. In this thesis the teacher as an educational researcher also takes on a development role and produces socio-cultural artefacts like digital networks that offer democratic, collaborative, proactive and inclusive means of investigating and distributing practice (Leask 1998).

The MirandaNet e-community tagline, 'O brave new world that hath such people in IT'ⁱⁱⁱ underlines the optimism of members. Even though the tools are new, by making this historical reference draws attention to the eternal human desire to make a difference through education to the lives of young learners.^{iv} In creating a multimodal Etopian tradition, MirandaNet Fellows have referenced the Utopian theme semiotically through the stylised Macintosh rose logo which was relevant to the introduction of personal computers in education because the movements also grew out of the same kind of ideals : that all people should have access to the tools of design, production and distribution (Livingstone and Parry 2005). The Arts and Crafts movement foreshadowed the Modernists who hoped to build a clean new world for all after the first World War (Morris 1891). Finally Halpin like Leask, pinpoints the twenty first century dilemma for educators in *Hope and Education*. He argues that two of the major

enemies of the utopian imagination are traditionalism and fundamentalism which militate against the democratisation of learning for both teachers and children (Halpin 2003).

In a time of post-modernist cynicism, this study aims to distil the essence of a utopian approach to education by investigating MirandaNet Fellows' philosophy, theory, pedagogy, praxis, philosophy and mythology which have led to the invention of the Etopian project.

The research questions and themes

The interests and aims that are outlined in the rationale are addressed throughout the IFS by asking a single overarching question:

1. What are the characteristics of the emerging pedagogy at each stage of this community of practice development?

The process of applying these questions to data about the Fellowship has required the development of sub-questions based on the content of the MirandaNet mission statement. According to Kim who has supported the development of a range of communities the existence of a mission statement is essential for a successful e-community which seeks to serve a clear purpose in the lives of its members and to ensure ownership of their fundamental goals (Kim 2000). Because the MirandaNet mission represents the communally constructed beliefs of the members the 2006 mission statement was used at the start of the IFS study as the source of the themes and the detailed research questions used to provide evidence for the main question^Y.

However, Kim's recognition that e-communities evolve and purposes change with the shifting social and economic landscape of the web is verified in MirandaNet practice. The Etopian ideals of MirandaNet have been revisited in the mission statement every year for the last fourteen years online ^{vi}. All members have the opportunity to alter or add to the wording so that the most recent lessons are absorbed and re-expressed. As a result of the changing mission during the period of the data collection note has been taken in the sub-questions of the latest balance of interest and concerns that has been expressed by the working party developing the 2008 mission statement ^{vi}.

The overall analysis of the mission statement offers two themes, explained in the rationale, which are used to organise the argument throughout this IFS. The main theme is about the opportunities membership of MirandaNet offers to encourage active professionalism in an e-community to include building a knowledge base which includes building a knowledge base and the pedagogy of digital tools. The second aim is to comment on the responsibilities of an e-community to contribute to world ecitizenship.

active professionalism in an e-community

The mission statement is clear about the role of MirandaNet as a community of practice. These are the statements which prompted questions about the community process:

Fellows who share their experience and expertise are building a professional interactive knowledge base about the use of advanced technologies in transforming teaching and learning. The individual learning patterns of learners of all ages are celebrated through practice-based research strategies, peer e-mentoring and e-facilitation. Self-assessment, peer review, dissemination and publication are central to the Fellowship process.

The five questions that relate to this aspect of the mission statement are:

1. What is learnt from the key critical incidents about the founder's and members' perspectives on key aspects of learning and digital technology?
2. What cumulative and iterative roles did the membership of international teacher educators, teacher researchers, company partners, policy makers and researchers assume in developing an e-community of practice?
3. Was teachers' engagement in Kress and Van Leeuwen's socio-cultural strata of discourse, design, production, distribution a significant aspect of their learning?
4. How has self-assessment been developed within the learning processes of the e-community?
5. What did the researchers and the teacher researchers discover about the affordances of key digital technologies in transforming teaching and learning at each stage?

an e-community contribution to world ecitizenship

The aspects of the mission which prompt these questions are :

The MirandaNet Fellowship, a community of practice established in 1992, strives to span national, cultural, commercial and political divides to provide an innovative and inclusive forum for professional educators and to influence worldwide agenda on the use of digital tools in transformational learning. Partnership with universities, industry, government and other professional organisations is at the heart of the research, development and evaluation processes that underpin and support evidence-based theory, practice and ethical policy.

The question which relate to this theme is :

1. How have the organisation of the e-community and attitudes of the partners changed overtime to accommodate learning needs about national, cultural, commercial and political divides?

These two themes are used as the selection criteria for the literature survey which follows.

The literature review

organising themes

Both in the rationale and in the research question section two themes are identified which now form the organising frame for the literature review. Developing active professionalism in an e-community and e-community responsibilities in world e-citizenship.

This literature review aims to cover key points that have been made about communities of practice since the early 1990s, and about the MirandaNet Fellowship in particular. Key theorists who are also members have had a significant influence on the e-community model from the inside from the early days (Heppell 1995; Kress 1995; Somekh and Davis 1998; Loveless and Ellis 2001; Wegerif 2004).

The more detailed literature which relates to the seven key case studies selected between 1955 and 2006 is quoted within the case study because each case is substantially different. Much of the contribution of Fellows who have become researchers during their membership period has been reserved for the final analysis of pedagogical models.

On a point of definition much of the following literature refers to communities of practice which do not have an online element. MirandaNet, itself, has only become a viable e-community as broadband has become more generally available. Indeed, as was the case in England before 2000/2001 some members in developing countries still rely on telephone access and largely use email.

Three issues have been taken into account in the selection of the literature. One is the difference between a long term e-community of practice and an online course. MirandaNet Fellows do run online courses for different funders which are one source of long-term members. The second issue is that more literature exists about e-communities in other professions because education has been late to develop e-communities. Thirdly there is also more literature about classroom e-communities for learning than teachers' e-communities. This includes out-of-school leisure communities and fan clubs for young learners, young adults and older learners who have been privileged by technical competence. As a result the observations about all these different kinds of communities have been treated as equally important in order to explore this new phenomenon.

developing active professionalism in an e-community

Communities of practice in the nineteen nineties were essentially for administrative and pedagogical convenience: part of the academy, rather than a community of equals (Cuthell 2002). As early as 1991, Wenger and Lave articulated the notion that a community had an identity which was created by the participants and was important to them in their learning. They located learning in business in the processes of co-participation not in the heads of individuals (Lave and Wenger 1991). The term, community of practice (CoP) began to be widely used in educational circles although

Lave and Wenger themselves did not turn their attention to how this concept was applicable in education until 1998 (Wenger 1998; Lave and Wenger 1999; Wenger, McDermott et al. 2002). Although the Internet has been acknowledged as a key component of contemporary communities of practice Wenger has not analysed the effects (2004). It is still the case that researchers who use the term 'community of practice' may not be referring to an e-community.

Much of the comment refers to course e-communities where the Internet provides extra benefit to basic distance learning (Palloff 1999; Kim 2000; Salmon 2000; Thurlow 2004). MirandaNet processes relate more closely, however, to innovative networking course models for academic courses that use integrativism as their theoretical and organisational framework for practitioner research (Engestrom 1999; De Laat 2005; Dillon and Tearle 2006). MirandaNet differs from these course communities substantially, however, because Fellows are involved in action for transformation beyond academic discourse and theoretical debate

This connection with non-education communities is not surprising since sharing practice is at the core of these communities. Some academic communities, in contrast, are pursuing notions of collaborative achievement and ways of celebrating the learning process in commerce and in the police (De Laat 2005). These overlaps that are developing between commercial, government agency and educational e-community practice are symptomatic of the blurring of professional boundaries where the development of digital artefacts and networked communications are part of the mix. However, whereas each of the quoted e-communities provides a place for a single profession, the MirandaNet Fellowship now spans a wide section of the educational industry which includes commercial representatives, researchers and policy makers as well as educators in one body.

In these early days of e-community of practice development a MirandaNet study of the role of professional organisations in the ICT CPD was funded by the Teacher Training Agency, Compaq and Oracle. The study investigated the opinions of three professional communities which had some shared members: ACITT, NAACE and MirandaNet. The findings showed that belonging to a professional organisation was essential to the members success in ICT across the three communities.

One small section of the quantitative questionnaire was only answered by Fellows because this was the only one of the three organisation online in 1998/1999. At the time of the survey the active e-community MirandaNet comprised only about thirty to sixty members exchanging messages on mirandalink as well as a website which invited participation from members. Although this participation was low, the passionate answers impressed the funders about the potential of this medium for the profession. Members said that the internet fired their imagination and improved their teaching measurably (Preston, Cox et al. 2000).

By 1999 the National Opportunities Fund (NOF) national ICT training programme had begun by 1999 for to the whole teaching community in England except supply teachers. Forty seven commercial companies (the Approved Training Providers, ATPs) were tasked with setting up teams to include teacher educators and advisers, policy makers. By the time the MirandaNet Fellowship were asked to evaluate this programme in 2002 the common view amongst teachers was that this programme was seriously failing. The media played a part in this view having headlined the training, NAFF NOF (Kenny 2001). This became a term often used to identify the programme.

In this politically and culturally sensitive climate surrounding the NOF training identified by the desk review, it seemed wise not to rely entirely on case studies because generalisation from this particular would not be credible. Uneven standards across the country were too great. Cohen, Manion and Morrison comment that whereas some naive researchers believe that statistical techniques themselves will guarantee the value of the work, correspondingly naive qualitative researchers tend to substitute narrative for analysis. The study, therefore, implemented the methodological recommendations for the dialogical use of both quantitative and qualitative methods to drawing naive conclusions from the data (Brown and Dowling 1998; Cohen, Manion et al. 2000).

The programme aimed to deliver training about the use of ICT in classrooms mainly online. The main findings that emerged from the analysis of one thousand questionnaire responses and twenty five case studies was that , in fact, teachers made little progress if they were just provided with ICT courses on CD-Rom and paper for self study. They made most progress if there was good support from colleagues in their own particular community. This exchange needed to focus on actual practice. The lack of the planned inclusive e-community programmes was noted, not just for teachers in schools, but for the staff trainers and advisers who were delivering the programmes. There was also a lack of attention to teachers' actual ICT training needs as well as a failure to build in the time required to make the transformational changes in practice that were expected by the policy makers.

The underlying reason for the failure of online delivery was that that access to broadband had not been provided quickly enough by some Regional Broadband authorities. Even where broadband was available the learning platform used, First Class, was unreliable when used by large numbers. This undermined teachers'

confidence in ICT. The failure of this learning platform meant that there was still no national evidence for e-learning as an effective method of ICT CPD (Preston 2004; Preston 2005).

At the same time as this national failure in creating e-communities of practice was occurring nationally in the UK, Salmon at the Open University, England, was concentrated on the theory of online socialisation in international business courses using First Class for small number (Salmon 2000; Salmon 2002). The Open University was motivated to improve distance learning for their distributed learners by experimenting with learning platforms. In this context, the Salmon 5-stage model usefully describes the processes that course learners need to experience in order to be fully competent in engaging in online learning. On the other hand the learners in the step model progress from one stage to another: access and motivation, socialisation, information exchange, knowledge construction and development. MirandaNet processes, which are described in the case studies in chapter two, tend to be more cyclical and iterative.

These iterative and cyclical processes are not so easy to capture for research purposes as hard evidence of information absorbed. A second problem for researchers in this fast-moving technical field is the long reporting and publishing time-lag which may not keep up with the flow of a lively, multi-headed and dispersed community (Preston 2005). De Laat touches on this challenge when he describes how difficult it is to research the collaborative thinking of a multi-headed network which is, in essence, complex (2005). He began researching a network designed for the police but this was too slow in starting to provide much evidence. So he turned back to e-communities of practice that disperse when the academic course is over. This

approach, as noted, presents a different context from the MirandaNet e-community in which roles change over time.

De Laat, also exemplifies a third problem for researchers. Researchers have to make a decision about whether they should collect data as a member or a non-member. For example, after completing his doctorate supervised by Wenger, De Laat joined MirandaNet in 2006 in order to observe the function of a long-term community of practice from within. His Fellowship, however, presents him with issues of objectivity, that are discussed in the methodology section under insider and outsider research.

This researcher objectivity is compromised by the passionate core which e-communities appear to share with fan clubs. In fact, the closest approximation in the literature to the MirandaNet tradition in the nineties, was, surprisingly, a paper about the development of an online fan club for the Phish popular music band (Watson 1997). These fan club, grew rapidly outside schools for leisure purpose and increasingly interactive modes of games playing like MOOs and MUDs (Gee 1992). Teachers found that some pupils with good digital access were already practising and learning internationally in virtual communities. Turkle provided a picture of how this kind of internet exploration impacted on young learners' identities because they were able to maintain several different identities simultaneously in online games playing (Turkle 1996). Teachers in a closed school community based on face to face contact may be surprised to know that some adult CoP members do not reveal their true identity, age or gender in some cases. This sounds dishonest, but for those with a disability, or those who feel judged only by their race or sexual orientation this can be an important freedom. MirandaNet Fellows are just beginning to explore these identity issues which indicates a new level of e-maturity^{vii}.

e-community responsibilities in world e-citizenship

Government education departments, universities and educational institutions are increasingly promoting e-learning across the world. In the UK, as in many other nations leading in the implementation of e-learning, a significant investment is being made in the hardware and the software. Some researchers are expressing concern about the commercial interests that are at stake in these national Information and Communications Technology (ICT) investment programmes and the lack of research findings that link the use of ICTs with improved academic achievement in traditional league tables (Selwyn 1999; Selwyn, Dawes et al. 2000; McFarlane 2003; McFarlane 2006).

By working in the international arena MirandaNet Fellows have some ethical responsibilities in the worldwide community of practitioners and researchers into the use of digital technologies. Loveless both a Fellow and editor of *Technology, Pedagogy and Education (TPE)*, reflects on the three aspects of the TPE community's vision which is similar to that of the MirandaNet vision;

the principles on which we conduct our work {are important to define}
;the developing understanding of pedagogy and professional
knowledge: and our contribution to the policy areas – local, national
and international – in which we develop practice, research, debate and
democracy ... (Loveless 2005).

Davis is another Fellow who edited the contributions of key theorist and practitioners in the *World Yearbook*. She focuses on the imperative of peace and digital equity as a key motivations in establishing supportive communities for learning in a range of different socio-cultural situations (Brown and Davis 2004). Kirschner, another member of the TPE community brings an education psychologist's perspective to the ethical issues. He embraces the same digital facilitation of peace and democracy, but

criticises the emphasis in democracies on dichotomies and polarised debates that restrict confidence in action. What Kirschner proposes is that the research community should make meaningful advances towards an integrated theory of interactivity in learning and education based upon a socio-cognitive foundation. He suggests that digital interactivity might, more importantly, be the way to peace and love^{viii} (Kirschner 2006).

UNESCO, supports this view, describing MirandaNet as a successful example of an e-‘community of practice’ that does effect change in teaching and learning worldwide and uses digital access to provide a platform for the disenfranchised:

Such collaborative problem solving is important to many ICT teacher educators who have relatively little access to technical support or to view new developments. Visits between countries have strengthened community members’ resolve. The exchange of information is two way, as it flows from the wealthy to the less well resourced and back again (Resta 2002 p. 83)

Overall this seminal phrase, a ‘community of practice’, has proven to be a useful means of analysing MirandaNet practice at the present as a member of a community of e-communities of practice which now exist in global education (Preston 2005; Preston 2007 in press).

The next section indicates how the literature survey has influenced the thinking behind the research questions devised to provide deeper knowledge about how this CoP works.

The Methodology

In this section I discuss the methodology from a mixed methods standpoint which embraces both positivist and post-modernist methods. This section covers the collection and organisation of the data, the roles of the educators in practice-based research, the reasons for the choice of critical incidents and how the style has been decided. The final section discusses the dilemma for the researcher of action and interaction versus passivity.

Mixing positivist , postmodernist and etopian methods

The MirandaNet Fellows' research designs for funded research and evaluation reports since 1992 have used mixed methods, both qualitative and quantitative. These approaches are summarised as follows with examples of key theorists who have influenced the links between MirandaNet theory and practice :

grounded theory (Glaser and Strauss 1967; Charmaz 2000)

practice-based research (Schon 1983; Somekh 1989)

auto-ethnography, personal narrative and reflexivity(Ellis and Bochner 2000)

complete membership research (Adler and Adler 1987)

negotiated interviews and formative evaluation (Atkinson and Silverman 1997)

semiotic analysis (Jewitt and Kress 2003)

The data under discussion have been collected using these methods. In addition, the practice-based studies developed by teachers and educators in the MirandaNet e-journals, which form part of the data, also display a largely mixed methods approach to investigating the realities of learning situations. Practice-based methodology is the main process by which Fellows reflect on their practice. In the same way this study is the equivalent of my own practice-based research into the learning processes of the movement I have founded and built as a teacher educator as well as a sometimes

lead-learner, sometimes novice and all the stations in between. One etopian element is the growing tendency to include young learners in the practice based research and distribution process as well.

The complexity of investigating the MirandaNet CoP to capture links between theory and praxis over time is compounded by a range of issues which include:

- a preference for qualitative methods
- the volume of multimodal and multimedia data
- the length of time for data collection – fifty years
- the ethics of using subjective data
- the revolving roles of researchers, participants and subjects
- the composite role as founder, chair, a funder and a lead learner
- the dilemma of action and interaction versus passivity

I shall discuss these methodological issues under the following five sections which cover style, data collection methods, the educators' roles, the selection of critical incidents and the dilemma for researchers who also want to action transformation.

Choosing an accessible style

Because of the subjective nature of some of the data I have chosen to experiment in this study with the conventions of research writing. In the first place, by choosing auto-ethnography as my methodology I have opened up a space to write between the traditional social science prose and literature with the aim of stimulating a discussion about working between subjectivity and objectivity; passion and intellect; autobiography and culture (Ellis and Bochner 2000).

Secondly, I wanted to examine what is admissible as evidence in teaching and learning as well as the formal ways in which academics write so that more teachers will be attracted not only to reading but to doing and publishing research. My model was a feminist thesis written in narrative form which I have emulated in some sections of this study (Rhedding-Jones 1997). The Rhedding-Jones thesis was a revelation about what could be done in research writing whilst still retaining rigorous insight.

Thirdly, although I have not entirely broken the bounds of convention in this report, I have developed a style which is intended to be clear for an audience of teachers who are not well versed in academic vocabulary and phrasing. This is important because a draft of this study is posted in the MirandaNet e-journal for members to correct and validate. In addition the Etopia e-journals provide the full narrative of the incidents that are summarised in this study. MirandaNet members have been invited to add their own anecdotes about ICT CPD experiences to this e-journal of critical incidents and events.

This participatory knowledge base is intended be helpful to other teacher educators and advisers who want to develop ICT CPD programmes. The notion is to be developed further at the NAACE conference in February 2007 where advisers and teachers will be recording vodcasts of critical incidents in ICT CPD.

The collection and organisation of the data over fifty years

The multimodal and multimedia data which has been collected over the last 50 years involves the output of approximately eight hundred educators since 1992. The data collection includes archived critical incidents and events, reconstructed oral discussions and transcripts, citations published and unpublished, course design materials and resources, members' publications, case studies, newspaper and magazine articles, meeting notes and minutes, diagrams, concept maps and email.

Some materials, like private email discussions, are only available to members. Other resources include the reconstructions of discussions and dialogues in meetings and at social events stored in member's wet-ware^{ix}. Independent evaluations as well as MirandaNet evaluations, research and development reports published with university, government and commercial partners are also cited. The very latest material which is just beginning to appear is facilitating the recordings of shared group discussion on podcasts in real time and screeds of collaborative thinking in wikis. both synchronously and asynchronously. Whereas basic discourse analysis can still cope with the text basic of this material, Fellows will soon have to investigate video research software to deal with vodcasts.

Some of the data collected between 1956 and 1999 reflects an era in England where most teachers were too often told what to do rather than being encouraged to think for themselves (Preston, 1998) (Leask 1998; Pachler 1999; Freidson 2001) (Sachs 1999; Preston 2004). This authoritarian approach to education as the transmission of monocultural information to passive recipients is in opposition to the MirandaNet ethos and is not reflected in the way in which the research has been conducted. This has been an investigation of possibilities not a means of uncovering an existing truth.

In the traditions of auto-ethnography I have not used external objective criteria for the selection of data, but my professional judgement in selecting data that I believe is relevant. I have consciously included my national newspaper articles, for example, although they cannot be validated academically. This is because they were written to influence the profession at a time when teachers were not reading academic journals, and could not therefore be reached within those pages.

Critical incidents are also considered valid for this study although by nature they only occur once. These are defined as events in each of the chronological periods which offer an important insight into a person, a changing group dynamic or the impact of a situation. They reflect the increasing collaboration within MirandaNet as they advance from accounts by individuals recounting the past to changes in thinking recorded by groups as they occur. The new technologies which are available to CoPs has also made this group recording easier and more readily accepted as a key methodology. More is said about the selection of critical incidents in the section devoted to them. The full data collection with a commentary has been archived on the MirandaNet website^x so that colleagues can make their own judgements about the veracity of the data and also add their own critical incidents to the growing database. Future researchers may find the bank of critical incidents provides a catalyst for new research questions and deeper analysis of cause and effect.

The ethics of using this material have been considered as some of it is subjective data dealing with the experiences and feelings of professionals. In the nineteen seventies and early eighties some post-modernist researchers in the role of peripheral member would find it acceptable to research a community without announcing their intention and, therefore, without the informed consent of the subject (Adler and Adler 1994). This is not acceptable in the ethical climate of today. In this study, most of the material that has been used has been committed for publication by the teacher authors. Permission has already been granted by the subjects of MirandaNet reports and evaluations. I have asked the permission of my family to publish details of the critical life events that impacted on my professional attitudes.

The splitting of the fifty years of data into the Past, the Present and the Future, Etopia in Figure One was inspired by an ironic comment which encapsulates for me the essential impossibility of the writing task I have set myself in twenty thousand words:

Writing the present is always dangerous, a biased project conditioned by distorted readings of the past and utopian hopes for the future (Lincoln and Denzin 2000).

The roles of the researchers in this story

Just as I had had many roles in the world of ICT and education when I founded MirandaNet, I have enjoyed a composite role within the organisation as founder, chair, often a funder, frequently a lead-learner and now researcher. For this reason the most relevant form of methodology to present this story seemed to be auto-ethnography, which is an autobiographical genre of writing and research that displays multiple layers of consciousness, connecting the personal and the cultural (Ellis and Bochner 2000; Fine, Weis et al. 2000). However, the result of ethnographical research “is never reducible to a form of knowledge that can be packaged in the monological voice of the ethnographer alone.” (Marcus 1997 p 27). As the story progresses from the Past to the Present, to Etopia I have tried to promote the evocative personal story of other educators in existentialist struggle for honesty and expansion in an uncertain world (Richardson 2000).

The most helpful tract in the process of classifying my roles as a researcher has been the slim volume written by the qualitative researchers, Patricia and Peter Adler (Adler and Adler 1987). This couple pioneered ‘complete-member researcher’ methods and ‘insider’ and ‘outsider’ influences which depend on the role that the field workers decide to play in the community they are analysing. The study alerted me to the sensitivities of the situation I was choosing for myself. For example, researchers who chose to be peripheral member researchers (PMR) had difficulty getting the data they needed

because of their limited access to the inside processes of the community. In these circumstances, CoP members withheld information because they were suspicious of how it was to be used. This was particularly relevant to studies of drug addicts and police teams. For example, Adler and Adler maintain that PMRs should not hold themselves back in a sterile manner, but are urged to use themselves as an additional form of data.

Examples of researchers who become Active Member Researchers (AMR) in order to experience what the members experienced, but only for the duration of the project were also useful. However, my role as a researcher fitted best the Complete Member Researcher (CMR) is characterised by total full-time immersion. The main problem for researchers in this role was the role conflict between being fully involved, and trying to preserve enough detachment to be able to analyse what is happening. Some researchers regularly left the situation for a debriefing which has been my approach. I have always been in touch with a range of insiders and outsiders who have been willing to talk these issues over with me. One case study was particularly helpful about a CMR how had lost some of the feelings and insight generated by her research role. By trying to be too objective and detached she had lost touch with the core of the emotional commitment that members had. Two of the other CMR, however, became so deeply involved that they had to withdraw and then felt that they could not write up the truth for fear of hurting the members.

While these case studies were helpful they were not a perfect fit because the process refers to handling the perspectives of members of organisations at various levels, rather than the founder. My autonomy is greater than ordinary members and so is my time and financial commitment. This knowledge had been holding me back from

undertaking this insider research for some years as I clearly could not be as objective as I thought a researcher should be.

Although the Adler and Adler study did not exactly fit the research perspective I came from as founder, their approach did resolve these issues of objectivity. Far from counselling objectivity as I had expected they suggested, in fact, that while CMRs may sacrifice some detachment the depth of the data they collect is a valuable compensation. CMRs also, in their opinion, have the opportunity to acquire 'understanding in use' rather than 'reconstituted understanding'. The most interesting discussion in the MirandaNet context was their approach to researchers who 'go native'. Adler and Adler believe that 'native' experience does not destroy but, rather, enhances the data gathering process. Data gathering does not occur only through the detached observational role, but also through the subjectively immersed role as well.

This observation is supportive to MirandaNet researchers who move from outsider to insider position as many of them. If they are interested enough to research MirandaNet as a community of practice model they often join either during or after their study. De Laat who is Dutch has already been mentioned. Two other examples are Stuckey who is Australian and Zhang who is Chinese. These researchers use internet technology on a frequent basis to erode national boundaries and practice cross-cultural collaborative learning relationships. Each joined at the end of a study of CoPs.

Overall the Adler and Adler case studies can be cited to justify the investigation by insiders of CoPs like MirandaNet which an 'active and passionate core'. In Adler and Adler assert that only insiders can tell the full story of a CoP. Outsider researchers, surprisingly, will hold a different, but perhaps slightly less valid version of the truth.

The selection of critical incidents and stories

The critical incidents have been selected in order to present truth in a different mode.

As Richardson explains,

I write because I want to find something out. I write in order to learn something I did not know before I wrote it p.924(Richardson 2000).

In the same vein Robert Frost's conviction is that poetic representation is the shortest emotional distance between two points – the writer and the reader (Preston 1975). Because of my early study and practice in English, Media and Drama I have been seeking a methodological approach to the MirandaNet data which would communicate equally effectively to members as poetry would, but still be valid in research terms. Denzin and Lincoln, as well as Ellis and Bochner and Burns and Parker all gave me the permission take a poetic stance as I saw fit in my research writing as well (Ellis and Bochner 2000; Burn and Parker 2003).

In this study the series of critical incident involves the continuous assessment of human behaviour over a period of time by the participant researcher who is also one of the actors in the process. Each of these critical incidents only happens once and, therefore, the normal research rules about reliability and consistency have to be suspended. This is justifiable in controlled conditions because a single unrepeatable incident or event can sometimes offers vital insights into a person or a situation (Wragg 1994). The importance of the irregular is sometimes ignored by quantitative research which relies too much on predictable, traceable patterns. In addition, the telling of stories can also involves the research audience in greater ownership of the results because they can be related to similar experiences. In this paper these insights drawn from the unusual as a means of providing a novel perspective on the slow introduction of a new phenomenon, the computer, into the fabric of education.

In this spirit MirandaNet members have always been encouraged to tell their stories to each other and on the web through practice-based research. This study aims to present the wider narrative that drew their work together as well as encouraging them to tell collaborative tales of what they have achieved.

The selection of critical incidents begins from my perspective in the Past, shares members individual stories in the Present and passes onto to the stories of lead-learners and young learners as they develop their strengths in Etopia. Recording the ways in which the members have acted together to create a spirit greater than themselves begins to emerge in the critical incidents towards the end of this study.

The voice of ownership of groups appears more clearly in the wikis and the podcasts. Yet there are hints of this even in 1997 when John Potter, a MirandaNet Fellow said at our first international conference, 'Miranda does not believe in one day ICT courses', and all the Fellows nodded (Preston 1999). My affirmation was different from the Fellows : at that moment Miranda was an independent community voice, no longer the voice of the founder.

The dilemma for researchers who aspire to be change agents

For Denzin, The Seventh Moment is the place, as yet unknown, where qualitative researchers will lead in the future. Denzin has a commitment to this new place which is like the MirandaNetters commitment to Etopia which makes this approach to research relevant because it emphasises community :

We, [as qualitative researchers], face a choice in the seventh moment of declaring ourselves committed to detachment or in solidarity with the human community. We come to know, and we come to exist meaningfully only in that community. We [as researchers] have the opportunity to rejoin that community as its resident intellectuals and

change agents ...And so we embark together on a new project, a project with its own, as yet not fully understood, cultural plots and cultural practices....And what remains throughout, will be the steady but always changing commitment of qualitative researchers - the commitment, that is, to study human experience from the ground up, from the point of view of interacting individuals who together and alone make and live histories that have been handed down to them from the ghosts of the past (p. 1062- 1063).

Inspired by this comment on community I looked again at the data and realised that my experience in the Past turned on a sense of achievement in being able to disseminate my findings from practice based research and mentor my peers towards productions of their own. Kress and Van Leeuwen develop these ideas in their communicative strata which offer the learning processes of discourse, design, production and distribution (Kress and Van Leeuwen 2001). This cycle was an expansion into the wider world of the iterative cycle of practice-based research:do, review, learn, apply (Somekh 1995). Where learners are involved in all these constructivist processes the learning is fuller. In addition, some of the best learning took place when some **action** resulted, like an international exchange of ideas or the production of materials that were used to support teachers in transforming their thinking about teaching and learning. Even greater was the power of insight when interactivity between colleagues gave birth to a shared truth. From these ideas the idea of a chart developed as a framework for the categorisation of the data that I had collected which finally identify action and interaction as the key to learning achievement.

The descriptive framework

In summary Chapter One has explored the different angles on the literature about communities of practice and the specific methodology which has been used in this study. In this final section Figure One is explained in detail as this is the organising structure for the presentation of the data in Chapter Two. This table is summary of the key themes round in the data held in the MirandaNet archives.

These inductive themes shown in table headings have been developed to guide the choice of data and to build a theoretical framework (Glaser and Strauss 1967; Charmaz 2000). This table has been used as an organising mechanism throughout this study.

In the first place the table indicates how the data has been split between the two periods in the first column :

Past : (rows A and B) pre-MirandaNet data 1955 to 1991

The founder's individual learning processes

Present : (rows C, D, E) Three MirandaNet pedagogical models, 1992 to 2005
parallels between the founder's learning and Fellowship learning

Etopia : (row F) an emergent model for teachers and learners, 2005 - onwards

Across the top row, six themes developed through a grounded approach to data analysis provide a focus for grouping the data against the pedagogical models of the period :

the relevant MirandaNet project, course or activities
the digital affordances under investigation
key incidents for a lead learner
cumulative roles of learners, lead-learners and the e- community
the engagement in socio-cultural communication strata : discourse, design,
production and distribution
emergent pedagogical model

The last column provides patterns of thinking and practice that were emerging in the Fellowship which combine to create a pedagogical model which will be discussed in the Chapter Three.

The detailed description of the data Chapter Two is organised against these emerging pedagogical models and analyses how these conclusions were reached. In this way the analysis explores the implications of the data in this descriptive framework in each period of the study. Chapter Three moves onto a discussion explores the overall issues for the profession from the data analysis in greater depth; the conclusions look at the wider implications for the profession and suggest further routes for research.

Chapter Two

Framing the data

How the chapter is organised

In Chapter One the issues from the literature selection and the methodology have been outlined. In Chapter Two, the data is organised chronologically ready for analyse in Chapter Three.

The data is organised in three main sections

Past : The birth of brave new world, 1955-1992

Present: building towards Etopia 1992 – 2005

Etopia – a future direction 2006

In the Past three case studies are explored

Phase One : The mystery of a mainframe 1955-1984

Phase Two: Learning by design 1985 – 1988

Phase Three : Expecting the unexpected^{xi} 1989 – 1991

In the Present three more case studies are investigated

Toshiba Laptops for Teachers 1992-1998

Think.com 1999-2001

Teachers as Researchers 2002 – 2005

Etopia is the section where the latest unfolding MirandaNet project is described as a means of analysing what the future might look like.

Using Figure One as an organising table each case study is compared and contrasted under the same headings which are:

The background
The activity or project
The digital affordances under investigation
Key critical incident for a lead learner
The role of the participants in the CoP
The communicative strata
The dominant learning model

The Past : the birth of a brave new world

In this introductory section about the potential of digital media, the data is related to historical periods reading across the rows. The salient details have been selected to indicate how the patterns of learning seem to emerge. The detailed description of the data in Chapter Two is organised against emerging pedagogical models. Chapter Three explores the overall issues for the profession from the case study analysis in greater depth; the conclusions look at the wider implications for the profession and suggest further routes for research.

Phase One : The mystery of mainframes 1955-1984

The activity

A seven year old girl in the 1950s was unlikely to be introduced to a mainframe or understand what they might be used for unless a family member had a profession interest in these new machines. Large and cumbersome, these contraptions were found in a limited number of offices or factories.

The affordances of digital tool

A mainframe at this time could only be operated by company trained professional programmers and technicians with degrees in computer science. They were not seen as having any relationship to personal learning or home lives.

The critical incident

The critical incident which contributed towards my knowledge about, and my latent affection for computers happened when I was seven years old. My father who was data processing manager of a bank took me to see the large metal boxes in a sterile room during the Christmas party. I remember that feeling of excitement generated by a glimpse of an unknown future. Computers seemed to have a mysterious power over humans as he so often had to abandon home to tend to their voracious needs. I decided at this young age never to engage with computers (Figure 2)

The learning model

This incident provides an example of learning passively. The experts in white coats had no reason to make computers user- friendly. Apart from this Christmas episode I had no other engagement with computers throughout my childhood, my schooling or my teacher training as an English, Drama and Media Studies teacher. Many senior teachers had the same limited exposure in their youth which, in my opinion, makes engagement difficult.

The communicative strata

After the Second World War most children faced the front in their classrooms and copied copiously from books. The learner was invited into the discourse of learning in

the secondary school, but not into the design, production and distribution of new ideas. Those processes were not part of the functionalist, mono-cultural, teacher-centred classroom which so many teachers of today grew up in.

Phase Two : Learning by design 1985 – 1988

The activity

Not until the nineteen eighties did computers begin to impact on CPD. After thirteen years of computer-free teaching in English, Media Studies, Drama and French I was invited by a government agency, the MicroElectronics Programme (MEP) to a two-day subject specialist workshops about educational software. What was outstanding was an introduction to Developing Tray, a poetry cloze exercise (Devtray^{xii}), by Bob Moy, one of the tutors and the Devtray author. The group of teachers I joined on the course discussed how Moy's ownership of the resource gave him particular insight in to the teaching and learning potential. An observation which had a significant impact on my understanding of the potential of these digital tools. I soon began to teach Information Technology .

The critical incident

Moy had made me realise that teachers could be involved in educational software development. I accepted an invitation to join a major industry university collaboration developing educational software. The process of designing an adventure game and a newsroom simulation with a group of six cross-curricula teachers was enhanced by the opportunity to trial the programme I had authored in schools as well as presenting to teachers and writing articles (Figure 3). Unusually we engaged young learners from Croydon schools in the design and production process. My own fifteen year old daughter provided the design for the record shop, one of the twenty five illustrations which were designed from students' drawings (Figure 4).

The affordances of the digital tool

Educational applications like Scoop and Newsnet were just beginning to emerge because key practising teachers and advisers were coding ideas in Basic for constructive learning on 8-bit machines. These titles are still good examples of constructive and experiential learning.

The learning model

Three elements of these critical incidents in phase one and phase two had a long term impact on my views about ICT CPD pedagogical models. Firstly designing this educational adventure was my first taste of effective industry-education collaboration with mixed partners. Secondly, the learning process in which changes were made to practice was engaging. Thirdly, this iterative style of learning which focused on practical activities suited my learning style. This gave me confidence in promoting this kind of learning for others. At this stage I did not know the terms for these learning activities like action research (Schon 1983). Nevertheless, I felt empowered because I had been give control over my own learning as well as the chance to share the experience with colleagues and learn from children. The opportunity to trial Scoop and NewsNet in schools, to reflect on the process and to publish was inspirational because I had completed the full Kress and Van Leeuwen cycle of communicative strata: discourse, design, production and distribution (Preston and Squires 1988). My experience as a collaborative author of educational software also convinced me of the value of including all the players in the process including developers and policy makers.

Phase Three : Expecting the unexpected^{xiii} 1989 – 1991

The critical incident

The final element of the MirandaNet vision for engaging ICT CPD came from an unexpected route. The critical incident in 1989 was the death of my daughter.

A good linguist, artist and mathematician, she had just won a music scholarship to Kings' School, Canterbury when a rare virus struck her heart muscle. Two heart transplants failed. We had some comfort in the fact that this rare virus was an inescapable killer. Nothing more could have been done (Preston 1996).

The learning model

Meanwhile to my surprise the world kept spinning. The collaborative learning techniques in the adventure game and the newsroom simulation became internationally famous.

As a result of their fame I began to work simultaneously with Czech and Chilean teachers on ICT CPD programmes drawn together by personal loss and political concern. The teachers introduced me to parents in those two countries who had lost their children through civil strife and political discord. Whereas I enjoyed mental peace of a kind because everything had been done for our daughter, these parents could never come to terms with the futility of their children's deaths. As a result of these encounters, my colleagues in Chile and the Czech Republic and I discussed the pernicious horror of any war, especially civil war. We saw an opportunity to harness the power of digital technologies world-wide to help learners, teachers and children to find their own paths to understanding the fascinating diversity of the people of the world (Preston 2006). An ethical approach to the use of digital tools in learning was given

birth in the establishment of the MirandaNet Fellowship by a group of like-minded colleagues in 1992.

There are many similar movements that can be traced back to shared personal experiences of parental loss like the Suzy Lamplugh Trust^{xiv}. The 'active and passionate core' that became remarkable in the e-community had its roots in these individual learning experiences from the 1950s to 1991. For this reason they provide an explanatory backdrop to the development of the MirandaNet community of practice from 1992 to 2005.

The Present : Building towards Etopia, 1992 - 2005

The three key projects that have been selected to exemplify the three periods under discussion are :

Toshiba Laptops for Teachers (TLT) project between 1992 – 1998

Oracle Think.com partnership from 1999-2001

Teachers as Researchers course modules from 2002 -2005

Each activity recorded in Figure One exemplifies an emergent pedagogical stages in the development of the MirandaNet practice-based learning. Each exemplar demonstrates how MirandaNet Fellows' work with partners has progressed their knowledge about the role of digital technology in teaching and learning. The studies also showcase assessment tools that have been developed during these periods.

Although the table suggests neat divisions between each period of practice there were, in fact, overlaps. This is communicated by the reference to the cumulative and iterative roles of members. In addition, the selected projects were not the only projects underway at the time. Figure One lists other projects which were undertaken in the same period.

Phase One : A community of partners : 1992 - 1998

Toshiba Laptops for Teachers

The background

When the Toshiba project was established in the 1990s there was concern in the UK government and industry about 'teacher resistance' to ICT use in schools : a phenomenon also often caricatured as due to teacher incompetence (Selwyn, Dawes

et al. 2000). This negativity about teachers was an established element of government policy at that time. Teachers were largely being told how to teach, what to teach and for how long reflecting a managerial approach to teaching which was prevalent in schools in this period. This managerial approach was identified by Hopkins and Judyth Sachs who were hoping for more ownership of learning for teachers in the new millennium (Hopkins 2002; Sachs 2003). Their call for international activist professionals advocated 'action research' as a means of giving teachers greater ownership of practice and sharing professional stories in building teachers' professional identity (Elliott 1991; James 1996; Whitehead 2006; Whitehead and McNiff 2006).

The project

This first scholarship programme run by MirandaNet (1994 - 1997) was designed to support teachers in presenting a stronger voice in their professional affairs. In this scenario, Toshiba, the Japanese hardware manufacturer, provided MirandaNet study bursaries and laptops for teachers. These applicants won the national scholarship competition on the strength of their suggestions about how they might use the laptops to enrich their professional practice. The Head of ICT and Education at the Department for Education and Skills (DfES) was initially persuaded by the arguments of the teacher-researchers involved in this action research project over one year that money spent on personal laptops that could be used at home was more effective in transforming their attitudes towards ICT and their abilities with ICT than the same amount of money, or more, spent on formal ICT training courses. This led the DfES to invest in a national study about portable computers for teachers which led to special subsidies to help teachers buy their own laptops (BECTa/DFEE 1998). The project shows how the MirandaNet e-community became a 'learning organisation' making full use of partnerships with industry (Senge 1990).

The digital affordances under investigation

Online technology was still unstable and inaccessible to a majority of teachers (Preston 2004). In the Toshiba project which started in 1994, the teachers were six months achieving email connections through their new laptops at school and home (Preston 1995; Cox 1999). Other members were also offering innovative practice like the idea of more partnership with parents by sending home PDAs in a deprived area or by using networks as a means of embedding professional knowledge in communities (Leask 1998; Barker 2000; Barker 2001).

Meanwhile the website provided functions for an interactive community rather than just being an information shell. Although the profiling software time required more editorial coaxing to extract comments from members the site was beginning to develop the 'buzz' that blogging now achieves.

Key critical incident for a lead learner

The Toshiba action research project is described from the perspective of one of the MirandaNet scholars. Franklin considers the role of the commercial partner, Toshiba, in his personal reflection on the MirandaNet site (Figure 5). Ben is not cynical about what Toshiba has to gain. He describes the value for the teachers of the partnership with the computer industry in the design and development processes. The partnership with industry widens his horizons, validates him as an expert and provides him with publication opportunities. He notes the clear benefits about teachers' ownership of laptops for Toshiba in funding this research which were free positive publicity and increased sales when it became policy to help teachers buy laptops. A full page in the Times Higher Education Supplement was an important and valuable addition to their marketing campaign as well (Preston 1995).

In the second extract, Franklin is convincing about the benefits of partnership for the scholars (Figure 6) He outlines critical incidents in which in his own professionalism is celebrated. In the first place he wins a laptop to be used as a professional tool. In the second place the research findings from his group influence government policy on professional ownership of laptops.

This first person account on the website brings to life the claim from Wenger that learning is a matter of transforming identities within a community of practice. Engagement in this collaborative research project did not result in formal academic qualifications, but it led to a shift in identity for the participants towards the position of expert in the field with personal and career benefits following from this.

The role of the participants in the CoP

At this stage MirandaNet as a e-community was in very early stages. The online group grew from five to about sixty between 1992 and 1999. Nearly all the participants were English. Most meetings were face to face but the interactive profiles were online and the publication of the teachers' case studies was encouraged in magazines and in books, still on paper. Strong email links with teacher communities in the Czech Republic, Bulgaria and Chile were being developed. Company partnership were growing with companies like Apple, Oracle and Microsoft. ICT policy-makers from agencies like BECTA, the Department for Education and Skills (DFES), the Training Development Agency (TDA) and international governments were also engaging with the Fellows.

Fifty of these early partners joined the UK/Czech MirandaNet workshop in 1997 in Prague with support for expenses from Oracle. As a result English participants published on the emotional effect on their teaching of seeing so much done in the

Czech Republic with so little IT provision: Czech participants published on the insight into democratic classrooms (Leask and Meadows 1999; Leask and Pachler 1999). Political insights on the New Europe was shared (Preston and Mannova 2000). John Potter added to the MirandaNet mythology by leading the general agreement that once day courses in ICT were a waste of time. Long term approaches and community support were required (Preston 1999). What was most challenging for the English was that the Czechs wanted to develop democratic participation in classrooms through topic work strategies at a time when the centralist national curriculum was removing this autonomy from teachers in England. This opportunity to reflect helped teachers from both countries to see their professional role in a global context.

The model illustrated in Figure 7 was the first MirandaNet assessment tool which promoted self and group evaluation of learning processes. The interactive cycle in the model is an extension of the Somekh action research cycle, which encourages learners to take risks, experiment and adapt because they are not constrained by the need to be right first time. The rationale for working with teachers in this way was that if teachers experienced transformational learning they might then be able to create similar learning contexts in their classrooms.

The term, lead-learners, introduced by Ellis, another Fellow, is an important aspect of MirandaNet ICT CPD which relies on promotion within the community to mentor others. The cyclical metaphor in Figure 4 illustrated graphically how the members accumulate experience and knowledge, which is passed on to others. Expert teachers at the centre fulfil a range of roles (Preston 1998). They move to the outer rim by a process of reviewing their work in an iterative critical cycle, which includes peer review, mentoring and publishing. The emphasis here is not on the ICT skills. Instead the self-assessment asks them to consider how they are working within the group to

accumulate and to share knowledge and skills, how confident they feel and what they need to do next to improve their confidence. Part of this learning is presenting their evidence to the rest of the group.

The side panels in the model offered an opportunity to discuss the teachers' preferred styles of learning and talk about what influenced their attitudes and opinions through story telling (Gardner 1993; Goleman 1996; James 1996). The Toshiba project also raised professional self esteem because the scholars had an impact the design of the hardware and on ICT policy about laptops for teachers.

The communicative strata

The communicative strata, discourse, design, production and distribution, are illustrated in this course. 'Action research' as the process was then called, invited the teachers not just to engage in discourse but to be researchers themselves. Bridget Somekh, director of PALM, a leader in action research, led the first MirandaNet workshop (Somekh 1995; Franklin 1998; Franklin and Litchfield 1999). Franklin and Litchfield were the lead-learners as they had already published with PALM project. Designing their own laptop projects allowed for the teachers' personal interests and learning styles. The projects went into production in the classroom and evidence was prepared which was distributed by publication. Going through this active process was as important to these teachers as it had been to me when I had designed educational software.

The dominant learning model

This phase of MirandaNet development is characterised as a community of professional partners. The dominant mode of learning in this period is in active partnership which was beginning to break down teachers' isolation and help them to

envisage new ways of teaching and learning. Franklins's enthusiastic testimony to this kind of active learning underpins the fact that ninety per cent of the first active scholars have continued in the Fellowship in a range of roles over the last fourteen years.

Phase two : transformational learning for students only 1999 - 2001

The background

Between 1999-2001 MirandaNet leading Fellows were involved in a three year programme of Think.com^{xv}, research, development and evaluation which involved both teachers and learners. Think.com was a new breed of software, a learning platform, designed by Professor Heppell, Ultralab at Anglia Polytechnic University in England. From his transformational learning standpoint he saw Think.com as a means of releasing young learners from classrooms and promoting independent learning programmes (Heppell 1998).

Because international scalability was crucial to Heppell's vision for global democratic participation through the web, Heppell persuaded Ellison, the Chief Executive of Oracle, to invest 14 million dollars of his personal fortune so that every needy child in the world could have a learning space. Ellison said that he was motivated by his own poor background to promote democratic participation. He was also attracted by the commercial opportunity to learn from the teachers' and learners' feedback ^{xvi}.

The most radical feature was the first screen which opened the world to learners who were asked to decide whether they wanted to find learning partners at 'home', at 'school', in the 'local community' or throughout the 'world', wherever learners had registered. The important factor here was that the learners, not the teachers, were in charge of these decisions about how to learn and with whom.

Unfortunately the transformational learning opportunities built into Think.com did not match the aims of the school systems in England and the USA which were dominated by testing. School managers were also concerned about allowing young learners freedom on the web. The tragic events of 9/11 made the international outreach a source of fear.

Within six months Oracle funded research, development and evaluation programmes were cut and the number of users restricted. Oracle US legal experts began to impose restrictions on the style of the learning platform. It was made far more difficult for schools to contact schools in other regions or countries. US schools were awarded prizes for creating subject content databases which militated against the original Ultralab specification for this program. The notion of a public gallery to show children's work was vetoed. The new version of the program which has been reintroduced is a small scale project platform.

The digital affordances under investigation

Hepell designed Think.com to underpin transformational learning putting the pupils in control. The features included hot seats, forums, chat rooms, brainstorming areas, interviewing opportunities and a generous publishing space for each learner. As in NotSchool, an Ultralab learning platform for school refusers, internal assessment and testing features were considered to be equally retrograde.

Think.com offered young learners a secure environment in which to create their own multimedia pages as well as communicating with each other by email and stickies, the e-equivalent to "post-it" notes used used by learners as a form of peer review. The need to read the work of others is a characteristic of a 'community of practice' that is perhaps often undervalued in the school context. Interactive communication tools in

terms of direct comment added means of asynchronous comment which was helpful to shy youngsters who welcomed time to think and compose on screen.

These young learners also shared in the development of the software by feeding back their reactions and suggestions to the Oracle programmers in Seattle who said the standards of UK student suggestions for the improvement of learning features was very high. This suggests a high degree of student ownership of this transformational tool (Preston 2000).

Key critical incident for a lead learner

Litchfield, was an Early Adopter for Oracle as well as MirandaNet Toshiba Fellow. He seemed to be comfortable in telling the truth about the technology even though there were challenges to be handled ; Figure 8 (Field 2000) He indicates the problems about making this kind of learning platform integral to school practice for the teachers.

The role of the participants

Fellows produced three diagrams to help assess how the web-based school learning communities were growing: Figures 9, 10 and 11. Think.com teachers who were called Early Adopters were aware of these opportunities, but not in a management position where they might use this platform as a vehicle for systemic change. These diagrams were intended to be used with Figure 4 as a means of self and group evaluation of learning about VLEs. However, as Litchfield suggests, few schools reached this level of practice.

The MirandaNet evaluation of the first phase noted that classroom teachers with no previous experience or training in learning platforms were struggling with the concept. As a result their comments were mundane and lacking in creativity or imagination. The

findings indicated a need for mentoring support in the introduction of learning platforms in school.

One reason for this conservatism was the psychological hurdle of getting started. The problems of isolation were particularly difficult for school innovator. Relatively simple and time-consuming tasks took up considerable time and emotional energy because innovators had no support themselves. For most think.com users there was a flurry of activity at the start of the process, which dwindled quickly without external support and training. Fellows' major concern was that once teachers felt they had failed it would be much harder to tempt them back to try again.

In addition, Fellows felt that the challenge for teachers could not be underestimated in managing the activities of students in learning platforms. Evidence indicated six months was required to show evidence of value. Systemic change took more than a year and was usually located in single classrooms. Most of the Oracle Early Adopters who had some vision about what might be possible joined MirandaNet in order to attend seminars and courses where they could share experiences with other community leaders. Since this time MirandaNet Fellows have been involved in more than sixteen projects that help learning communities to make the best use of learning platforms. ^{xvii}

The communicative strata

In retrospect it seems that the reason why this learning platform was not widely adopted at this stage was that only the students were involved in the four communication strata. As a result of the level of difficulty and lack of time, classroom teachers were being excluded from the full learning process. Much was learn from this evaluation which helped to strengthen MirandaNet practice in the future.

The dominant learning model

The phase which has been chosen to describe the focus of the Fellowship at this time is 'transformational learning for students only'. The underlying issue here is that although MirandaNet Fellows were much clearer about the transformational opportunities for young people using the web, they were much less sure about what role teachers might have in this new situation. Fellows found that there was a need for e-learning CPD for the educators and advisers of teachers and time and resources to pay for this. The Oracle programme failed for much the same reasons as the UK national ICT training project for teachers (Preston 2004).

The second phase: Teachers as Researchers : 1999 - 2001

The background

This case study explores the developing MirandaNet practice on building e-communities of practice by selecting two related Diploma modules that were designed and implemented during the period 2002 – 2005. The first module pilot was funded as a result of the government policy in e-learning for teachers because the General Teaching Council for England^{xviii} (GTC) began to prepare the teaching profession for e-learning. A partnership was established with MirandaNet Fellows to establish a vibrant national e-community of professional practice run by GTC members for GTC members. A national competition was run to find GTC members to train as e-facilitators. During the year of training it was planned that they would also work as e-facilitators of website debates alongside members of GTC staff. After the training they trained more e-facilitators as enthusiasm for the website debates increased. Coincidentally, the Department for Education and Skills were engaging the whole ICT community in a consultation on e-learning strategies for education (DfES 2003). They offered to fund the teachers' fees and study expenses in order to increase the numbers of professionals able to sustain e-community activity.

The first module was called Teachers as Researchers in Elearning (TAREL), 2003 – 2004, funded by the Department for Education and Skills and The General Teaching Council. The follow-on module, Teachers as Researchers in E-facilitation (TAREF) 2004-2005 which was funded by Select Education. These were both pilot modules in which the first course informed the design for the second course in building a braided learning e-community.

The work of those students who undertook and submitted the professional study was judged to be of an exceptionally high standard by the Institute of Education assessors: over half (56%) of the students obtained an A grade, with a further six students (33%) obtaining a B. Only two students who submitted gained a C, and not a single student failed. The independent course evaluator commented that: 'By any standards, this is a remarkable result (Earle 2004). The design of these pilot modules have provided guidance for modules developed across the European Union and China, England, Mexico and South Africa which are still on-going.

At the time of this course, which emphasised teachers' professionalism, the UK government were engaged in requesting consultation from teachers on the e-learning strategy (DfES 2003). The Head of ICT in Schools accepted an invitation to hear the students explain their theories based on the evidence drawn from classrooms which were included in the consultation. In terms of the MirandaNet community this feedback to policymakers illustrates how braided learning concept works: working together, teaching professionals can publish evidence like doctors do that result in impact on policy. In this context the course was the pilot for the design of the Braided Learning e-journal for teachers' who want to publish their classroom evidence in a style which appeals to other teachers. Some of the authors extended their case studies to publish in academic journals. Turvey, for example, proved that his young learners achieve little deep learning or creativity using a learning platforms unless a fully informed teacher was guiding them (Turvey 2006). This study mirrored closely the discoveries of Litchfield in the evaluation of think.com. The teachers' evidence will also impact on wider practice as well because a selection of these teacher publications are published in the first edition of their journal for teachers called Reflecting Education, focusing on elearning^{xix}.

The digital affordances under investigation

The Braided Learning e-journal drew on the MirandaNet experience of learning platforms. As well as publishing case studies, teachers can interact in peer reviews forums and shared references and resources. This e-journal design provides a crucible to explore the disconnect between the ways in which ICTs are being introduced at the institutional level and the ways in which they are being used by students and others outside the educational institutions, even individual teachers themselves (Loveless and Ellis 2001).

The e-journal design aims to encourage teachers to think about the issues by challenging the expected conventions of web design. The Arts and Crafts Mackintosh stylised rose, a reference to past traditions of multimodal communication, was used as a semiotic navigation tool (Figure 12). The Braided Learning concept was explained as the greater strength of each hair when they are woven together to form a thick braid. As such teachers' evidence is stronger when it is presented together ^{xx} (Figure 13). The discussion of these images which were familiar helped the teachers to understand the sections of a study that were required to submit a full case study. Teachers reported that this visual approach was one of the elements that contributed to the quality of the studies (Earle 2004).

Key critical incidents for lead-learners

The critical incidents up to this point have represented the experience of an individual. Group discussions are presented from now on that indicate evidence of turning points as MirandaNet groups online reach a new consensus or a new insight. These truncated quotes in Figure 14 from the e-facilitation module, TAREL only give the flavour of long passage of asynchronous prose where new insights are reached.

However this short selection indicates a growing sense of intellectual confidence, an interest in absorbing a range of collegial viewpoints, an excitement about practitioner research, a respect for open-endedness and a keenness to continue research investigation. The recognition of a sense of intimidation at the start of the course is picked up again in the discussion of the pre- and post-course concept maps.

Cuthell explains that the task was about finding and exchanging 'codes of practice' for online courses. This transcript shows how a sequence of new ideas are introduced and picked up by the others and built collaboratively. One teacher comments how scaffolding from the community of practice was a means of professional growth. This reflection leads to another exchange comparing ways in which learning takes place and the need to learn like children. Another teacher raises question of teachers' fear of failure in attempting to learn about digital technology. Cuthell's hypothesis is that these affective factors are unlikely to be so readily presented in a more academic context. At this point another teacher is able to refer to his own struggles and reflect on the ways in which failure can either enhance, or inhibit, learning (Cuthell 2005). In conclusion, Cuthell suggests that:

The challenge for society and institutions is to incorporate this new reality of learning styles into pedagogy and epistemology and ensure that all can benefit from it (Cuthell 2002 p.49).

The role of the participants in the CoP

The independent evaluator found that all the students on the module, bar one, felt that they were part of a CoP in which they were learning to incorporate new learning into their practice. The one student who did not feel part of a learning community blamed herself for not engaging more. They responded positively to a question on how well the course had met their personal aims and objectives and many reported having learned substantially from their peers. The way in which the MirandaNet community

was managed helped them translate community-building processes for other context (Earle 2004).

Cuthell, the tutor, observed that the eight students began to come together as a co-constructive learning community over time. The process was that of shared knowledge construction where participants are able to build on and question each others ideas in order to improve and develop them through a process of shared reflection. In particular, the teachers saw the potential for the extension of the Salmon development stage in terms of braided learning (Cuthell 2002)

This development of e-facilitators within the MirandaNet community from these courses is important in the collaborative building of knowledge which the learning platform underpins.

The communicative strata

Once again teachers had been involved in all aspects of iterative practice based research – discourse, design, production, distribution. The fifth strata which e-facilitation introduces is interaction.

As an example of interaction as a process the students running forums devised interactive strategies in teams to draw the best from the forum members. In essence the e-facilitators, at their best, were providing the links and scaffolding for a collaborative text developed in digital space and staggered time. At the same time they were dealing with poor online etiquette in the GTC forums and sometimes generating activity which did not happen otherwise. Peers were weaving together ideas, intellect to intellect, without the distractions of body language, appearance, gender, tone of

voice, gesture or any of the other mediations that hang in the air of face-to-face talk. This was a different skill from teaching in classroom.

The dominant learning model

The term coined for this period of activity is a self-regulating e-community impacting on policy, theory and practice. Self-regulating suggests that the teachers themselves are beginning to decide as professionals what they need in a module about e-facilitation and are providing the interactive content. This content remains in the e-journal to support the next group and ensure that they start from a higher level than the group before.

The MirandaNet transformational models of online collaboration in these courses illustrated the communal constructivism principles that Holmes, Leask, Preston and Younie had been tracing in similar MirandaNet project (see p17) . But what these particular Fellows proved was that e-facilitation skills are a vital stimulus to group thinking online. When think.com was designed to promote constructive learning there was little experience of the kind of socialisation skills that are required. Now MirandaNet is expanding the pool of skills e-facilitators who are working towards the development of greater intellectual collaboration online as well as face to face.

Etopia – a future direction

Phase One : Braided e-communities creating theory policy and practice, 2006

The background

The government of England and Wales is the first international government that is expecting all schools to have learning platforms by 2009 ^{xxi}. This introduction of learning platforms into schools is part of a growing recognition in England and Wales that our understanding of the technical and social processes by which culture is made and reproduced is being both challenged and enriched by digital technologies.

The Fellows, on the other hand, are moving on to use wikis, blogs, vodcasts and podcasts which are beginning to change the ways they communicate. They are also discussing the implications for children and schools of free web applications like My Space and UTube which offer both great publication freedoms and accompanying responsibilities. The greater international range of the membership now indicates that these issues are emerging in nations as diverse as Australia, Africa and China.^{xxii}The next section shows how Fellows are engaged in creating practice rather than stopping at the strata of rhetorical discourse.

The project

The overarching project, Etopia project, has been chosen as the final case study. Etopia aims to bring teachers and learners together in collaborative thinking activities online and face to face between regions and countries, cultures and religions (Figure 15). The core working group on Etopia has been the Inspirationalists : self –selected MirandaNet teachers and researchers interested in the impact of the new interactive technologies on the school curriculum and on methods of assessment. Some members of the Inspirationalists who are long-term MirandaNet Fellows are also senior

staff at Westminster Academy, London which provides transformatory education which puts the learner at the centre of the learning process. The students have their own laptop and all the information about them including results and reports is stored in their space in the learning platform, Connetix. Teachers and parents support the young learners in developing their own learning programme and setting their own goals.

The school in London is an appropriate setting to test the power of digital technologies in bridging cultural divides since most of the students are Muslim. Etopia, set up by Fellows after the events of 9/11, aims to give an internet voice to young learners. Westminster Academy students are the designers of the new Etopia project website working with a programmer supplied by LogicaCMG. The students are seeking project partners all over the world to build artefacts online to post on the Etopia map. This collaborative research, development and interaction project aims to demonstrate how new technologies can help teachers and learners to take a more active role in creating and sharing digital content. The intention is that the young learners will design , as well as use the content – wherever this is convenient : on the move, in public places, at school and at home.

Teachers in partnership with students in the Etopia project are developing their own understanding of multimodal learning including their wikis, blogs and podcasts in the the Multimodal Mapping volume of the e-journal. Selected papers have also been submitted to a second volume of the Reflecting Education e-journal called 'Fascinating cultural objects': multimodal concept mapping in teaching and learning^{xxiii}. The editorial board of this new academic e-journal is pleased to incorporate the multilayered concept map index that Inspiration, a MirandaNet commercial partner, is helping to build (Figure 16).

The digital affordances under investigation

Wikis, blog and podcast functionality have been added to the MirandaNet website and Etopia at Fellows' request. In a weblog or 'blog' the author or the 'blogger' makes regular entries and links to other web pages they find interesting. Entries usually in date order can be written, or can include multimedia, such as images, audio and/or video. ^{xxiv} Podcasting is a web-based broadcasting which can be downloaded to a PC or handheld device players for listening to by the user at their convenience. ^{xxv} Whereas the blog tends to be a solitary writing activity and the podcast is uni-directional, the wiki provides the kind of collaborative, interactive environment which promotes group activity^{xxvi}. This affordance has marked a new direction in Fellows' braided evidence activity.

Key critical incidents for lead learners individually and in groups

Clarke has been a key member of the Inspirationalists group since the first year. She gained her Fellowship for sharing her knowledge about wikis and blogs and setting them up for the group. Her blog entry, Mammoth Journey, Figure 17, presents a new approach to professionalism both in content and digital style (Clark 2006). The short text extract is presented alongside a screen grab which indicates the visual impact of the whole product. There are photos in the margin and many hyperlinks to other sites. This hyperlinking also illustrates well how non-linear communication works on the web and is much better viewed in situ. Secondly the tone of this professional story which is chatty and immediate pinpoints how the technology is changing the relationships between the teachers and the taught. The standards of this teacher's multimodal literacy are clear.

Another email critical incident from a member, Brewster, who is both a teacher and a parent alerted members to the real dangers that are faced by young people who surf

the web, caused by their own inevitable naivety. What is interesting about this highly literate member's post is that she has not followed written grammatical codes in the interests of speed and familiarity (Figure 18). This is closer to the way in which young people use blogs and mobile phone text language. This kind of us is growing amongst teachers in the MirandaNet forums.

Other MirandaNet members are gaining confidence with these tools ; podcast, blogs and wikis now record braided learning processes on the website. However the technical restrictions some international members suffer are also catered for by mirandalink, the synchronous email messaging system and the online newsletter where events and discussions are summarised on email. In this way members in places without broadband can still get all the news and participate.

The immediacy of email and the emailed newsletter are this still effective way of generating discussion in which the less technically savvy or well equipped members can join. For example, there was been a lively discussion in March 2006, recorded in Figure 19 : How do we know or measure what effect ICT is having on achievement levels? In this discussion on mirandalink which received over thirty contributions, Ó Murchú, could not help shouting, in capitals, about assessment destroying creativity. Jo Nutt, a fellow who has been a teacher before a company developer echoed Litchfield and Turvey speaking about earlier periods of MirandaNet practice-based research activity. Nutt insisted that children do not learn very much unless there is some form of guidance and some assessment guidelines (Cuthell 2006).

This well articulated argument may not only help the writer to explore the point but provide a critical moment for another professional,.

What a great discussion!. From the point of view of an ICT coordinator in an inner city school struggling for money I can say that ICT reaches the parts that other forms of education can't. I have children on my Gifted and Talented ICT list who have no achievements in any other subjects. They are motivated to work independently and are happier children as a result, of this (Brosnan 2006)

Another new development is the extent of cross posting which means that the online content of professional discussions is now being shared between professional groups as well. This is far more immediate than the slow process when chairs of each organisation organise a face to face meeting and letter campaign of influence over time. During the summer of 2006, for example, considerable concern was expressed online about Blackboard Inc.'s efforts to patent their brand of learning platform so that all other versions of this kind of software modelled on patterns of cognition become illegal. Figure 18 shows a sequence of messages sent to mirandalink which began a campaign about this patent. A sequence of messages worked out a plan and advised members over several days to research the appropriate websites, fight the patent by participating in a wiki which outlined the international e-communities' previous experience of designing similar learning platforms before Blackboard appeared as evidence of 'prior art'. Newsnet has been entered in this wiki. Eventually another member supplied the website which assists European citizens in emailing their MP or MEP with minimum effort. All of this information which was supplied by interested members who belong to more than one community like NACCE and ACITT has provided a recent and relevant example of the growing opportunities for digital democratic participation^{xxvii}.

The communicative strata

Group **discourse** has always been expected as a result of conversation. Teachers have always been engaged in the **design** and **production** of their own resources as well. However, the computer permits higher levels of professional **design** and

production online as well as the opportunity to create content and **distribute** topical materials in the classroom.

But what seems to be evidenced in particular in this period is the emergence online of group interaction in which teachers can mobilise professional opinion across a range of organisations and provide immediate support and mentoring for colleagues. Some of the evidence which is being braided together from this interactive research is , in fact, impacting on education policy with a shorter and shorter lead time : in particular, the DfES e-learning strategy, the Blackboard Inc. patent application and new NAACE national plans for ICT CPD which have been developed in partnership with the MirandaNet Fellowship for the DfEs and the TDA^{xxviii} .

The dominant learning model

The term chosen to identify this emerging phase of MirandaNet activity is : Braided interactive e-communities creating theory policy and practice. The Etopia project underpinned by the Inspirationalists represents teams of educators which includes young learners. In this process of interactive learning that Inspirationalists are modelling members create their own ICT CPD agenda. No longer just the researchers and teacher educators in the Fellowship, but the teachers themselves. These MirandaNet lead-learners facilitate the development of the physical and web learning spaces so that they match what the teachers judge they need to test and try out. As a group they are also having some impact on theory by publishing an inaugural volume in Reflecting Education, which focuses on new approaches to multimodal literacy in teaching and learning^{xxix}.

Chapter Three

Understanding the potential of the Etopian ideal

The organisation of Chapter Three

Chapter One explored the literature relevant to communities of practice and explained the methodology of the study and showed how the data was to be organised. Chapter Two has presented the detailed case studies and the immediate analysis of the material organised in Figure One against the appropriate communicative strata and the emerging pedagogical models. In Chapter Two the research questions as expressed in summary in Figure One formed the backbone of the interrogation of the data for each episode in the Past, The Present and the Future.

Chapter Three looks again at the questions which were asked in Chapter One to promote a wider discussion of the pedagogical models which draws together lessons from across the three periods : past, present and future. The detailed relationships found in the data between the MirandaNet CoP processes and the digital technologies available are considered under the two main headings used for the sub-questions : first active professionalism in an e-community and, second, an e-community contribution to world ecitizenship.

A discussion of Etopian issues

The pedagogical models

The first two models were most prevalent when learning was largely seen as a solitary activity from 1955 -1991.

The functionalist, mono-cultural, teacher-centred classroom

Topic-based constructive learning

From 1992 – 2001 local and global partners came in to focus:

A community of professional partners

Transformational learning for students only

These 1992 – 2001 descriptors are composites derived from key researchers of the period that influenced MirandaNet thinking about pedagogy (Senge 1990; NewLondonGroup 1996; Scardamalia and Bereiter 1996; Askew and Carnell 1998; Heppell 1998).

The last two terms which are discussed in detail in the case studies emerged from the MirandaNet e-community as the Fellows begin to distinguish a distinctive style of ICT CPD from within:

A self-regulating e-community impacting on policy, theory and practice

Braided interactive e-communities creating theory, policy and practice

The four pedagogical models that are observed developing from 1992 – 2006 are progressive in terms of interaction as the digital affordances for collaboration improve. Each stage is described again here:

The first four models draw on well known theories , but by 2002, the fourth model is created by research members themselves who are co-constructing the underpinning theory. The cross-cultural braided learning community presents a distinctive online concept which is a development of Vygotsky's social approaches and Wenger and Lave's 'community of practice'.

What is significant in the building of these new approaches are the cumulative roles of learners, lead-learners and learning communities in online exchanges and face to face. The learning agenda begins to be set by the group, not by tutors or e-facilitators or any leading individual. As examples, Fellows decide what projects they want to run and what debates will be useful to them. In turn the members supply the interactive content rather than seeking it in the writings of others. The mentoring approach becomes clear

in an exchange between the TAR teachers about what kind of learning they are achieving colleagues evaluate how they have learnt from the MirandaNet TAR course in Figure 20. These views can be summarised as:

- learning from supportive peers in an e-community
- engaging with the benefits of practice-based research
- learning how to tackle appropriate levels of challenge
- developing professional skills in e-facilitation

'Being taught' is not mentioned by these Fellows which indicates the change which has taken place in the teachers' views.

By 2005 the early adopters group, mainly teachers, are displaying the fourth mode of operation that I have called interactivist e-communities. This is an e-community that not only interacts between the insiders, but some core members are also connected to other learning nodes. Some teachers, like some children are ahead of this game and should be not only allowed to lead, but to mentor those who find it more difficult. This interaction online blurs the status of education professionals who have different, but more equal roles within these e-communities.

Another new development is the extent of cross posting between e-communities. This means that the online content of professional discussions is now being shared between professional groups as well. This is far more immediate than the slow process when chairs of each organisation organise a face to face meeting and letter campaign of influence over time. This process has given rise to the term 'interactive e-communities'.

Active professionalism in an e-community

The interactive and cumulative roles of Fellows

From the 1950s to the 1980s the Past activities and critical incidents of the founder indicates that there were, even then, a few opportunities for teachers to engage in practice-based research and publication. This experience provided such an engaging learning experience that the founder was keen to reproduce it in her own classrooms and later in ICT CPD programmes devised by MirandaNet.

The analysis now returns to Wenger, founder of the CoPs' concept in the 1990s in order to analyse how the cumulative and iterative roles that the members of the MirandaNet CoP have assumed in the Present and the Future compare and contrast with other business, political and civic CoPs (2004).

In business, focusing on communities of practice added a layer of complexity to the organization, but it did not, in Wenger's opinion, fundamentally change what the business was about. On the other hand, Wenger says that in schools changing the learning theory requires a much deeper transformation which will inevitably take longer. In this context (2004), the MirandaNet CoP also illustrates an increase not just in active professionalism, but in a growing vision of world e-citizenship.

Secondly Wenger refers to the role of communities of practice in schools which aim to impact internally as well as connecting with peripheral forms of participation in broader communities beyond the walls of the school and with communities that serve the lifelong learning needs of students by organizing communities of practice focused on topics of continuing interest to students beyond the initial schooling period. Wenger's approach here is also significantly different from the kind of finite course e-community

envisaged by Salmon in further and higher education and in business. TAR and TAREL students who joined MirandaNet also saw the end of the course as the point where the iterative deeper learning begins, not ends.

Wenger makes third point which relates to the MirandaNet educators' view of schools:

The school is not the privileged locus of learning. It is not a self-contained, closed world in which students acquire knowledge to be applied outside, but a part of a broader learning system. The class is not the primary learning event. It is life itself that is the main learning event (E.Wenger 2004 p.5).

This emerging understanding of the new professional stance required of teachers is encapsulated in Clarke blog (Figure 17) and Brewster evidence as a parent and a teacher (Figure 18). Not only have they mastered the new technologies of communication, but also acknowledging a new kind of relationship with students as well as the need for codes of conduct beyond the school.

These sentiments compare well with MirandaNet aspirations for schools. However, Wenger's analysis of emerging CoPs for organisations is a better fit with the Fellowship than his analysis of education which refers to schools. Like MirandaNet, CoPs in commercial organisations have provided a new approach to the retention of valuable corporate knowledge from employees and identify the ways in which CoPs are used as a vehicle for developing strategic capabilities in organisations. Three of these observations have great relevance to the strategies demonstrated in the MirandaNet evidence although the difference is that the members are not working for commercial advantage. In this context, Fellows are voluntarily sharing practitioner knowledge collectively because within the flat MirandaNet structure they can all benefit. There is minimal distinction between teachers, taught, lead learners and facilitators: in fact one person can fulfil all these roles. The interactive communication allows Fellows to

address the tacit and dynamic aspects of knowledge creation and sharing, as well as the more explicit aspects. MirandaNet is also not limited by formal structures: they create connections among people across organisational and geographic boundaries.

Wenger's concern is that the characteristics that make CoPs a good fit for stewarding knowledge—autonomy, practitioner-orientation, informality, crossing boundaries—are also characteristics that make them a challenge for traditional hierarchical organizations. In this context, Fellows find the freedom to share beyond the confines of their organisation also helps them to think challengingly. This is one reason that Fellows cite for remaining in membership although their role might change significantly from teacher, to adviser, to commercial developer, to policy maker or to university teacher trainer. Some long-term members have held three or four of these posts which makes their multiple perspective very valuable to the community.

Another way in which MirandaNet roles are changing is in individual's growing publication success. The MirandaNet data included a growing number of Fellows paper published, not only in the Braided Learning e-journal but also in academic journals like *Computers and Education*, *the International Journal of Web-based Communities*, *Technology, Pedagogy and Education* and *Reflecting Education*.

One sequence of thinking emerged from the TAR and TAREL courses which analysed the five-step Salmon model which concentrated on courses with a finite end. Cuthell (2005), a Fellow, who is one of the MirandaNet course designers and tutors, suggested that at the top level, development, the Salmon model, needs increasing detail to address the transformation that takes place in the online students. In his research data, the collaborative learning environment enables the learners to develop into independent, analyse the information available to them and generate knowledge

streams. In this way participants in a professional e-community context become researchers themselves, and as they interact with one another to develop ideas, they become e-facilitators.

In addition, the Salmon model which is presenting a more traditional approach to course learning does not address the establishment of post-course forums because there is no imperative once the qualifications are obtained in this way of thinking about learning. In setting up a departmental forum for staff to exchange views, Smith, one of the Fellows, quoted by Cuthell, suggests that an initial phase of face-to-face 'marketing' might be considered as an essential element in starting a forum in which potential participants are novices otherwise there will be little sustained activity (Cuthell 2005).

Whereas Salmon's model seems to move beyond knowledge construction this is a key purpose of the MirandaNet Fellowship. Holmes, Leask, Preston, and Younie, all Fellows, present a joint theory of communal constructivist or interactive knowledge building which is a development of Vygotsky's social constructivism. This theory by relates to the way that students construct their own knowledge focuses on the additional value in detail that ICT applications bring to the learning and teaching environment. (Leask, Ramos et al. 2001; Leask and Younie 2001).. The Fellows support the notion that students should both interact with their own environment which is social constructivism, but should also be engaged in the process of constructing knowledge for their learning community (Holmes, Tangney et al. 2001). One example is the joint authorship of the MirandaNet mission statement. These Fellows who are committed to changes in classrooms refined these ideas in practice-based classroom projects with international partners in two EU Minerva projects, Web@classrooms and Schoolscape@future (Holmes, Tangney et al. 2001; Preston and Holmes 2002).

Interactive knowledge building in school is a strong theme of The Knowledge Forum. This learning platform is designed to assist young people to think collaboratively about key questions in the curriculum. Their combined contributions led to identification of gaps in their group knowledge which they fill as a team. The knowledge base is left for the next group. Instead of learning the same information, the new class absorbs the knowledge that is there and digs deeper. This way the school owns a knowledge base which has pupil ownership (Scardamalia and Bereiter 1996). Unfortunately Scardamalia and Bereiter have had difficulties in finding enough schools willing to pilot the software because it does not fit in with the information transmission model that national curricula tend to support. In fact, the Knowledge Forum process which is central to MirandaNet knowledge building as well begins to exemplify in school, the informal ways in which young people are learning out of school.

Cuthell, a senior MirandaNet Fellow,^{xxx} calls this informal kind of learning, 'bricolage', which is in direct contrast with the traditional patterns of information transmission directed by teachers. Cuthell explains that teachers see knowledge in schools as contained in artefacts – 'knowledge artefacts'; whereas for many students knowledge is contained within the artefacts of production which are transitory and interactive (Cuthell 2002).

However, despite their facility with the technology, students will not construct valuable knowledge together online without the mediation of a teacher according to Turvey,^{xxxi} another MirandaNet Fellow. and opportunities for creativity. Turvey's focus is deeper learning through creativity. He argues from the vantage of practice-based research, that although this kind of online production of knowledge is very different from established patterns, virtual autonomy for children is not enough to ensure that they

make the most independently of digital affordances He argues that schools should be using the affordances of learning platforms to achieve the transformational 'deep learning' that Askew and Carnell recommend, as well as Papert 'intellectual self-determinism' (Papert 1993; Askew and Carnell 1998). Turvey's small-scale study, which he started on a MirandaNet practice-based course, suggests that guidance from informed teachers is an essential ingredients of a programme of personalised learning envisaged by supporters of government programmes for the greater use of learning platforms in classrooms (Turvey 2006). This does not seem to be far from MirandaNet practice which has been described already by Cuthell where the guidance of e-facilitators and e-mentors has been an essential ingredient in creating an interactive knowledge base. What matters is that the facilitators of communities, whatever their age, encourage the members as learning partners.

What is also valued in MirandaNet is the Braided Learning e-journal, a concept which describes a more informal interactive mode of learning which publishes peer reviews teachers articles of about 2,000. This body of evidence-based knowledge which is peer reviewed is used both to improve teachers' access to professional knowledge, and also to influence policy at local, national and international level in partnership with companies and policy makers (Preston 2002).

Other Fellowship concepts which have been identified as important by Fellows in debate include the partnership with external bodies, the empowerment of professionals and the extension of publication opportunities to include dynamic discussion in forums, blogs and wikis (Preston, Wegerif et al. 2005). This presents teachers with practice in a new role of interactive creative thinking which cannot be easily replicated in other ways.

However, changes in roles are not always easy to cope with. Pioneers in developing this complex and informal CoP face some key challenges. For example, members show great courage when they join on the web as strangers to the other members. So far there has only been a 2% resignation rate, but the increasing membership makes it more difficult to know everyone well enough to put them at their ease. Efforts have been made to set up specialist interest group and local and national groups so that the membership is broken down into smaller unit of about 20 – 30 who know each other well and can mentor new members.

Language is also an issue as currently all activities and publications are in English and so far multiple translation has been beyond project budgets. This gives the impression of dominance by the West. However, simple scanning techniques mean that other languages can be accommodated in the e-journal. One e-journal in Friesian, Dutch and English is just being set up to test these possibilities for other languages as there are, for example, ten members in China and about twenty five from the Middle and the Far East : numbers which are growing as projects increase in these countries.

Many Fellows express the opinion that the international nature of the CoP improves their understanding of the reality of being teachers and learners in other cultures. This knowledge is mediated by experience rather than through the lens of journalists^{xxxii}. The opportunity for exchange and action also lifts the sense of powerless in hearing distressing global news which teachers and learners cannot influence. Exchanges around the time of 9/11 indicated how much that situation affected young learners and made them fearful for their own safety, for relatives and friends in other countries and simply for other students who were suffering (Cole 2003; Dobson 2005). The next stage is to raise funding to have closer face to face contact with members from outside

Europe as MirandaNet project experience still indicates that successful projects do require an initial exchange of trust before online projects are sustainable.

Over the intervening fourteen years evidence suggests that the CoP has encouraged members to hold flexible roles within the organisation which are non-hierarchical : the learners become teachers, teachers become learners, developers learn from practitioners, learners agree to become researchers and designers, academics agree to become activists and learners surrender copyright on collaboratively derived knowledge and theory. There is evidence that the members do seem to be setting their own agendas for learning about ICT from each other as well as using digital tools to be interactive in impacting on theory, policy and practice rather than depending on their place of work for ICT CPD. The 'political' intervention on issues of national and international import is another new development online which may well encourage more teachers to be 'activist professionals.' All of this is however speculation at such an early stage in presenting evidence of new professional behaviours.

In terms of new behaviours, the Fellowship has always introduced teachers to company partners in the design, development and evaluation of learning products for constructive learning in classrooms. This commercial involvement in this e-community of practice is a significant component in the active learning which is taking place.

A new element is the inclusion of young learners in interactive practice-based activities that promote their inclusion not only in the discourse of learning, but in the processes of design, production and distribution face to face or online.

Key critical incidents about members' experience and expertise

The critical incidents underline the passionate core within most CoPs which is often passed on through story telling. They offer a different angle on the experience of members from a more personal perspective. An overall view of the critical incidents suggest that there has been a shifting concentration from the experience of the individual to the perspective from groups.

From 1986 – 1991 the founder enjoyed a freedom to develop constructive learning and practice based learning and teacher authored materials at Kings College which signalled an entirely new approach to the teachers' professional status. However although in 1992 it soon became clear that Fellows were swimming against a government tide of centralisation. Many teachers felt that their professionalism was not recognised.

This general atmosphere in England in the early 1990s in which teachers were told what to do rather than being consulted is the reason why Franklin celebrates the professional activist agenda in MirandaNet. He values the fact that his expertise and professionalism are recognised. The second witness, Litchfield, is distinguished by his honesty about a commercial agenda for learning platforms that leaves the teachers and the learners needs behind and disenfranchises members. Thirdly Clarke's personal use of a blog provides evidence of a learning partnership with students. Brewster's story about her daughter's experiments with an older identity on the Net was a brave effort at alerting the community to the real issues which touch every home. The intimacy of the professional blog, the immediacy and frankness of discussion on line and the power of collaborative sharing world wide in wikis suggest that teachers are developing a new kind of mastery over issues that affect them. They are able to

muster opinions more quickly, share them more widely and have a significant impact on policy makers.

From 2002 the critical incidents now illustrate the mood of groups online and in meetings which are podcast. International members now request podcasts of meetings they cannot attend in person. These kinds of recording also make the collection of practice-based evidence easier to do.

Teachers' engagement in the socio-cultural strata of discourse, design, production, distribution

A crucial factor in teachers' learning in ICT CPD has been the level of involvement in the Kress and Van Leeuwen socio-cultural strata of discourse, design, production, distribution. In the ideal MirandaNet scenario teacher participants emerge from a CPD experience ready for action in setting their own learning agenda and managing the independent learning programmes of their students. The affordances of the Internet now make digital distribution of teachers' reflections more achievable although the Fellowship also funds workshops and seminars where teachers present their work.

But the Fellowship also recommends the implementation of a fifth communicative strata, action. The establishment of the Czech Miranda was one action where previously a volunteer organisation promoting democratic classroom strategies would have been banned. Twenty five other chapters now provide nodes which are activated by the lead-learners when funding for new projects and partnerships is won.

However, these are not bilateral actions and therefore, a sixth strata called 'interaction' is also suggested as the final stage in the cycle, because it is in this interaction that learners have to defend their world perspective, share it and modify it.

self assessment issues

The assessment of learning has been a key subject in publications and in discussion. Many members feel that transformational learning is held back by traditional approaches. Jewitt and Kress have had considerable impact on the Fellowship by questioning the whole external assessment agenda in education:

In an era of profound and rapid change, neither the goal of competence nor the (imagined) reality behind that goal are any longer serviceable or sustainable (Jewitt and Kress 2003 p.17).

This comment highlights the situations where students produce an artefact which demonstrates their grasp of affordances of the technology and their engagement in processes of production, critique and distribution. MirandaNet Fellows are comfortable with the implications of this approach : that students may know more than teachers do about production. What matters to Fellows is that the learners are encouraged to share their knowledge and skills and interact. The wisdom of teacher mentors may still be important as they have seen more by merely living longer^{xxxiii}. But the reverse is also true. The new Etopia project, for example, which is being designed by young World Ecitizens might be a means of introducing senior learners to the wisdom of the young who are mapping the world they want.^{xxxiv}

In contrast, many academic courses in ICT CPD only centre on initiating teachers into the established discourse about the use of digital tools in classrooms. This knowledge has been socially constructed by academics: teachers can only participate by becoming academics. On the other hand, the action research approach of the 1980s, which covered the design and production processes of an ICT project in the classroom was criticised because the discourses from literature were not covered (Saunders 2002; Lamb and Simpson 2003 ; Whitehead 2006).

So far MirandaNet course design has tried to balance these two aspects of achievement but some serious questions were asked by the tutors of the TAREL and TAR courses because e-facilitation skills were only rewarded at certificate level. In an internal report the tutors questioned whether the human empathy, intellectual energy and capacity to scaffold a rich learning dialogue which had been demonstrated on line should have been assessed at a higher level. Should these tasks have been assessed as a post-doctoral activity instead? Was enough known about multimodal literacy and situated learning, the tutors asked, to make the marking secure? At the core of this tutorial discussion was the realisation that the students were achieving mastery of more multimodal skills and understanding than the tutors had envisaged when the course was planned. The effect of the e-community of practice also meant that new notions and ideas were being fashioned and published in the forums as the course progressed which were not yet in the e-facilitation canon. How could these be rewarded? The notion of 'competence' seemed to be crossing a wider range of disciplines than had been envisaged (Preston and Wegerif 2005).

the affordances of key digital technologies in transforming teaching and learning

MirandaNet teacher researchers record a series of discoveries about the affordances of key digital technologies in transforming teaching and learning in the projects of the present and those that look forward to the future.

Early project hardware and software offered more access to information, a wider range of communications opportunities and more learning freedom, physically and mentally for the individual like pcs, laptops, word processing, the World Wide Web and e-mail : these were the only facilities available for MirandaNet Toshiba scholars. But even, then as a result of the teachers' practice based research findings, some action on policy was achieved. The UK Department for Education and Employment commissioned research into portables for teachers on the basis of this small study that resulted in national funding for this purpose (BECTa/DFEE 1998).

The next upgrade was desktop publishing and graphics manipulators which reduced the gap between a professional publication and hand-written notes. Members then pioneered the use of transformational learning platforms which led to the use of personal spaces. Clarke, a Fellow, indicates identifies community space as just one element in social networks which include personal and dialogical spaces as well as instant messaging, email, texting, Internet, chatrooms and discussion forums(Clarke 2006). Blogging and forums have increased the power of the individual to attract a world audience unfettered by publishers. Fellows have been adding podcasts to web accounts of meetings as well. These experiments with collaborative digital technologies that look set to unsettle old patterns of human behaviour. For example, an emerging generation of media producers is sampling and remixing existing materials as core ingredients in their own work. Networked culture is enabling both

small and large collaborations among artists who may never encounter each other face to face. Bloggers are appropriating and recontextualizing news stories; fans are rewriting stories from popular culture; and rappers and techno artists are sampling and remixing sounds. The MirandaNet Fellows see a role in engaging teachers and learners in the heated contention and debate that these cultural activities are generating for the future.^{xxxv}

The technology which seems to have most promise in terms of collaboration is the wiki which is already altering MirandaNet practice. It provides a way of sharing information in collaborative text in the form of meeting minutes which can then be easily amended by all the participants providing a web-published document on the emerging braided thinking of a group. Wikis now offer interactivity of thinking about concept and agreeing on truths that was not dreamt of in my early learning. However the medium requires great trust between the users not to abuse the opportunity to modify and distort what has been written before. The best know version of this artefact is the wikipedia which has gained popularity very quickly as a trustworthy source of information.

A major question for MirandaNet Fellows, centres still, however, on what kind of ICT CPD promotes transformation changes in classrooms when digital tools are introduced. All the evidence suggests that some training and support are vital. For example, in the MirandaNet on-going research into the use of interactive whiteboards (IWBs) findings suggest that teachers do not change their practice unless they are supported in developing practice based projects where they take ownership of transformational learning. It seems that in Mexico, China and South Africa, as we have found in the UK, computers can be a catalyst in systemic change, but only in carefully structured programmes (Cuthell 2006).

an e-community contribution to world ecitizenship

The data provided evidence of international activity since 1994 which collaborated the UNESCO view that the MirandaNet Fellowship has developed collaborative problem solving amongst ICT teacher educators who have relatively little access to technical support or to view new developments. All members can engage in the activities which include:

- adapting the mission statement to reflect all perspectives
- developing their own ICT CPD agenda
- sharing skills and mentoring each other
- deciding on the seminar and online debate subjects
- creating joint products and resources,
- publishing braided thinking based on evidence,
- sharing with other professional and learner e-communities,
- becoming interactivists promoting their professional agenda
- involving their learners in schools in braided interactivity

The project which most clearly illustrates the shifts and changes of emphasis in a long-term relationship is the history of the Anglo-Czech partnership which celebrates its tenth anniversary in 2007. As UNECSO suggests visits between the two countries which have been funded by the EU, Hewlitt Packard, Microsoft and Oracle have strengthened community members' resolve.

UNESCO understands the reciprocal process of exchange of information which flows from the wealthy to the less well resourced and back again. Fellows Mannova, Preston and Lengel explored how technology had brought a sense of new-found power to Middle European citizens and increased their ability to participate in and engage in

civil discourse in the wider world (Preston, Mannova et al. 2000). But what is important is that the learning about democracy in learning has not all been one way. The Czechs have also been able to pinpoint where English practices are not as democratic as they had believe. For example, when the wall came down the Czechs wanted the English to teach them how to build constructive learning through topic work into their classrooms, just at the time when England was abandoning this model and instituting the national curriculum (Preston 1999). Over more than a decade, the Czechs have provided this kind of truthful perspective on the Western understanding of democracy both politically and pedagogically. Fellows suggest that the opportunity to make this kind of comparison across the international landscape of education seems to be useful to teachers who are aiming not only to be reflective practice based researchers but also active professionals feeding back knowledge, experience and evidence into the common pool.

The Czech are now hosting the new Etopia project in Prague in 2007 which marks the tenth anniversary of the last workshop there. This indicates the Czechs continuing commitment to ethical uses of digital technology in a changing world. Fellows have also been exchanging outside The current boundaries of Europe in countries like Macdeonia and South Africa. The latest development in the E-lapa project which began in 2002 is a peace room which is being used by teachers and children throughout the MirandaNet membership^{xxxvi}

Conclusion

In this conclusion I discuss the professional relevance of Etopia, how the analysis will be disseminated and how it will be used and recommendations for further research.

The professional relevance of Etopia

There are clear commonalities between with the vision and principles of the Technology, Pedagogy and Education community and the World Summit of Information Technology declaration of principles, plan and action (Loveless 2005) as well as the communicative strata developed by Kress and Van Leeuwen which become a key theme of this study(Kress 2003).

In a sense it would appear that the Fellowship has reached e- maturity since the investigation of digital tools in teaching and learning is no longer an end in itself. Fellows are now keen to use these tools to ensure more leverage in world affairs for themselves and for the young citizens of tomorrow who the teachers are collaborating with in creating a brave new world.

How the analysis will be used

As this study has developed it has been presented at a series of conferences so far in countries where MirandaNet has chapters : Chile, the Czech Republic, England, Mexico and South Africa. It has also been the basis of a paper for Technology, Pedagogy and Education which is in press and two chapters for books being funded by the European Union and led by colleagues in Sweden and in the UK. These publishing opportunities have provided useful feedback on the emergent ideas.

In addition, in order to validate these subjective judgements a fuller selection of the is published in the MirandaNet e-journal volume called *E-topia: mapping interaction in an*

e-community context (Preston and Cuthell 2000 - 2006). The volume is divided into three sections under the same headings as this study:

The Past : O brave new world: the birth of an e-community : 1955-1991

The Present : Building towards Etopia : 1992-2005

Etopia: The Etopian ideal

As part of the process of MirandaNet braided learning the engagement of colleagues has been invited through comments, reflections, reviews as well as the relating of critical incidents and events. The purpose is to co-construct a multimodal narrative about the practices and beliefs of educators who use digital technologies for ethical purposes. This evaluation by my own wider e-community will also test the validity and reliability of the data selection. More critical incidents on ICT CPD are to be added by the NAACE community at their annual conference in February 2007 in vodcasts.

In essence, the hope is that this approach will provide a resource which will empower our successors to handle the complex processes required to adapt their pedagogical reasoning and practices in response to learning opportunities provided by ICT in the future (Cox and Webb 2004).

Recommendations for further research

The MirandaNet Fellowship is already responding to the findings in this study. Actions include :

a further series of Inspirationalist workshops planning publications about how the newer collaborative technologies like wikis might be used to further opportunities for teachers to think creatively in groups and influence professional policies across the world.

a new series of international workshops for the World Ecitizens, Etopia project which is an integrated interactivist e-community set up to transform classrooms and staff rooms learners for learners of all ages.

The key finding that has emerged from this IFS is the need to find ways of assessing creative and constructive learning which have credibility for teachers as learners and researchers. The next step is the investigation of the use of concept maps as a means of self-assessment of e-learning which will be the subject of the Ed.D thesis. The theory behind this approach to assessment is based on Somekh and Maver's research in the Impact Two project with children and on Somekh findings from a small project for teachers called PERLS, where she emphasises higher quality work rather than better results^{xxxvii}.

MirandaNet thrives on opportunities like this to take forward the thinking of colleagues on topics that interest them. Perhaps the most useful contribution of the e-community of practice is empowering learners to build evidence together to support cogent arguments that make a difference in education. The Internet provides an invaluable vehicle in this process that can a building block in creating Etopia here.

Invitation to Readers

Readers are warmly invited to contribute to the knowledge base about ICT CPD and join the debate in the MN Etopia e-journal (www.mirandanet.ac.uk/ejournal)

Acknowledgements

A special note of praise for my supervisors. Gunther Kress, has taught me the value of 'less is more' even if I do not always practice it. Like Gunther, Carey Jewitt is able to spot the core of the argument in a sea of irrelevance with great clarity. She also has the amazing capacity to respond with intelligence, sensitivity and good humour within twelve hours. I have learnt so much from them both.

Huge thanks to John Cuthell, senior MirandaNet Fellow, to whom I am indebted for sharing ideas so generously that, sometimes, I am not sure where the ideas started, in his head or mine. To Francis Howlett, as well, who has been knitting together the website which is central to our e-community for many years, and tolerates amiably my technical shortcomings.

Thanks also to the Fellows and scholars from whom I have learnt so much. Those who are cited in this paper are not the only ones who have had notable influence on the Fellowship theory, practice and influence ; R. Barker, D. Brewster, De Laat, N.Davis, P. Dillon, W.Clarke, B. Franklin, P. Hepp, S. Heppell, E. Hinostroza, B. Holmes, G. Kress, M. De Laat, M. Leask, D. Litchfield, L. Lengel, A. Loveless, B. Mannova, D. Mavers, J. Meadows, D. O'Muthu. M. Smith, B. Stuckey, B. Somekh, K. Turvey, J. Whitehead, S. Youngie.

Also a special thanks to Harvey Mellar who had the idea of the MirandaNet scholarships in the early days and Norbert Pachler who has provided us with valuable publication opportunities over the years.

Most importantly, an accolade to my husband who has supported the MirandaNet Fellowship in every way since its inception. Thanks to him, also, for the encouragement to continue this doctoral study even when the research has dominated other aspects of our life, and also when the temptation to give up has been overwhelming.

References

Adler, P. A. and P. Adler (1987). Membership roles in field research. Newbury Park C.A., Sage.

Adler, P. A. and P. Adler (1994). Observational Techniques. Handbook of Quantitative Research. N. K. Denzin and Y. S. Lincoln. Thousand Oaks, Sage: p. 377-392

Askew, S. and E. Carnell (1998). Transforming Learning: Individual and Global Change. London, Cassell.

Atkinson, P. and D. Silverman (1997). Kundera's Immortality: The interview society and the invention of self. Qualitative Inquiry 3: 304 -325.

Barker, R. (2000). The Docklands Project
The Contribution of Parents to School Effectiveness. S. Wolfendale and J. Bastiani.
London, David Foulton
www.unesco.org/education/educprog/lwf/doc/portfolio/case2.htm.

Barker, R. (2001). Reading and Writing with ICT. Teaching and Learning With ICT in the Primary School M. Leask and J. Meadows, Routledge.

BECTa/DFEE (1998). Multimedia Portables for Teachers Pilot. Coventry.

Brown, A. and N. Davis (2004). Intercultural learning though digital media: The development of a transatlantic doctoral student community.
London and New York, Routledge-Falmer.

Brown, A. and P. Dowling (1998). Doing Research/Reading Research, A Mode of Interrogation for Education. London, Falmer Press.

Burn, A. and D. Parker (2003). Analysing Media Texts. London, Continuum.

Charmaz, K. (2000). Grounded Theory: Objectivist and Constructivist Methods. The Handbook of Qualitative Research: second edition. N. K. Denzin and Y. S. Lincoln. London: New Delhi, Sage.

Clark, W. (2006) A learner's space: into the semiosphere. Wordpress Blog Volume, DOI: <http://www.itbubble.com/?p=440>

Cohen, L., L. Manion, et al. (2000). Research Methods in Education - 5th Edition. London, Routledge-Falmer.

Cole, G. (2003). E-citizens of the World Unite. Times Education Supplement: Online. 7th November 2003.

Cox, C. (1999). "Programs that promote democratic participation." Revista Novedades Educativas Edition 108.

Cox, M. and M. Webb (2004). "Review of Pedagogy related to ICT." Technology, Pedagogy and Education 13(3).

Cuthell, J. (2006). "The Mirandalink: How do we know or measure what effect ICT is having on achievement levels?" MirandaNet Newsletter Archive April (www.mirandalink.ac.uk).

Cuthell, J. P. (2002). "A learning community - a community of learners " Journal of Interactive Learning Research: Association for the Advancement of Computing in Education 13 (1/2)(Distributed Cognition ed. Karasavvidis): pp. 169–188.

Cuthell, J. P. (2002). Virtual Learning: the impact of ICT on the way that young people work and learn. Aldershot, UK, Ashgate Publishing Ltd.

Cuthell, J. P. (2005). Beyond Collaborative Learning: communal construction of knowledge in an online environment. INSTICC, Miami, Web Information Systems and Technologies.

De Laat, M. (2005). Networked Learning, Political Academy of the Netherlands.

Dewey, J. (1916). Collected Works of John Dewey. Carbondale Southern Illinois University Press.

DfEE (1995). Superhighways for Education. M. Stevenson, HMSO.

DfES (2003). Fulfilling the potential: transforming teaching and learning through ICT in schools. London <http://www.dfes.gov.uk/ictinschools/>.

DfES (2003). "Towards a Unified e-learning strategy: consultation document." <http://www.dfes.gov.uk/elearningstrategy/strategy.stm>.

Dillon, P. and P. Tearle (2006). "Special Issue: Educational research in a distributed community." Technology, Pedagogy and Education.

Dobson, S. (2005). African Partners log on fast and furious. Guardian London. March 14th: Education Supplement: international links.

Earle, A. (2004). Reflecting on Professional E-learning Practices: an e-journal approach, Collaboranda.

Elliott, J. (1991). Action Research for Educational Change. Buckingham, Open University Press.

Ellis, C. and A. Bochner (2000). Auto-ethnography, personal narrative and reflexivity: researcher as subject. Handbook of Quantitative Research. N. Denzin and Y. Lincoln. London, New Delhi, Sage Publications.

Engestrom, Y. (1999). Innovative learning in work teams: analysing knowledge creation cycles in practice. Perspectives on Activity Theory Learning in doing: social, cognitive and computational perspectives. Y. Engestrom, R. Miettinen and R.L. Punamaki. New York, Cambridge University Press.

Fine, M., L. Weis et al. (2000). For whom? Qualitative Research, Representations and Social Responsibilities. Thousand Oaks, Sage.

Franklin, B. (1998). "MirandaNet: a personal reflection." Braided Learning E-journal, MirandaNet Fellowship.

Franklin, B. and D. Litchfield (1999). Special Needs Education and ICT. Learning to Teach using ICT in the Secondary School. M. Leask and N. Pachler. New York London, Routledge-Falmer.

Freidson, E. (2001). The Soul of Professionalism. Professionalism. The Third Logic. Cambridge, Polity Press: Chapter 9.

Gardner, H. (1993). The Unschooled Mind: How Children Think and How Schools should Teach. London, Fontana Press.

Gee, J. (1992). The social mind. New York, Bergin and Garvey.

Glaser, B. G. and A. L. Strauss (1967). The discovery of grounded theory: strategies for qualitative research. Chicago, Aldine.

Goleman, D. (1996). Emotional Intelligence: Why it can matter more than IQ. London, Bloomsbury.

- Halpin, D. (2003). Hope and Education, The Role of the Utopian Imagination. London, Routledge-Falmer.
- Heppell, S. (1995). Power trips on the SuperHighway. Sunday Observer. London UK.
- Heppell, S. (1998). On-line communities. EU SchoolNet conference 1999, London.
- Holmes, B., B. Tangney, et al. (2001). Communal Constructivism: Students' constructing learning for as well as with others. 12th International Conference of the Society for Information Technology & Teacher Education (SITE 2001), Charlottesville, VA, USA, Association for the Advancement of Computing in Education.
- Hopkins, D. (2002). Keynote. Teachers on Teaching and Learning, GTC/IOE Joint Conference, London.
- James, J. (1996). Thinking in the Future Tense. New York, Touchstone.
- James, P. (1996). "The Transforming Power of Story-telling among Peers: an exploration from action research." Educational Action Research 4(2): 197-220.
- Jewitt, C. and G. Kress (2003). Multimodal Literacy. New York, Peter Lang Publishing.
- Kenny, J. (2001). "Bad Practice." TES Online www.tes.co.uk/search/story/?story_id=346826(11 May).
- Kim, A. J. (2000). Community Building on the Web: Secret Strategies for Successful Online Communities, Peachpit.
- Kirschner, P. (2006). Six of one, half a dozen of the other...on dichotomies and tribal wars. Current Trends Conference, Nottingham, British Journal of Educational Psychology.
- Kress, G. (1995). Preface. 21st Century A to Z Literacy Handbook. Preston. London, Apple
- Kress, G. (2003). Literacy in the New Media Age. London, Routledge.
- Kress, G. and T. Van Leeuwen (2001). Multimodal Discourse: The modes and media of contemporary communication, Arnold, Hodder Headline Group.

Lave, J. and E. Wenger (1991). Situated Learning: Legitimate Peripheral Participation
Learning in Doing: Social, cognitive and computational, Cambridge University Press.

Lave, J. and E. Wenger (1999). Learning and Pedagogy in Communities of Practice in
Learners and Pedagogy. Open University.

Leask, M. (1998). The Development and Embedding of new knowledge and practice
in the profession. Philosophy of Education. Bedford, De Montford University Doctor
of Philosophy.

Leask, M. and J. Meadows (1999). Learning to Teach Using ICT in the Primary
School. London, Routledge.

Leask, M. and N. Pachler (1999). Learning to Teach Using ICT in the Secondary
School, Learning to Teach Subjects in the Secondary School Series. London,
Routledge-Falmer.

Leask, M., J. Ramos, et al. (2001). Communal Constructivist Theory: ICT Pedagogy
& Internationalisation of the Curriculum.

Leask, M. and S. Younie (2001). Building On-Line Communities for Teachers: Ideas
Emerging from Research. Issues in Teaching Using ICT. M. Leask. London,
Routledge.

Lincoln, Y. S. and N. K. Denzin (2000). The seventh moment: out of the past.
Thousand Oaks, Sage.

Livingstone, K. and L. Parry (2005). International Arts and Crafts. London, V&A
publishers.

Loveless, A. (2005). "Research and Practice in Technology, Pedagogy and Education:
what do we stand for?" Technology, Pedagogy and Education Volume 14 Number 2:
149-153.

Loveless, A. and V. Ellis (2001). ICT, Pedagogy, and the Curriculum: Subject to
Change. London, Routledge-Palmer.

Marcus, G. (1997). "The uses of complicity in the changing *mis-en-scene* of
anthropological field work." Reflections 59: 85-108.

McFarlane, A. (2003). Learners, Learning and New Technologies. Educational Media
International. London, Routledge.

McFarlane, A. (2006). What research tells us about the use of ICT in schools. Developing and implementing an e-learning strategy: what do we need to learn from each other?, London.

Morris, W. (1891). News from Nowhere or an Epoch of Rest, Being Some Chapters from A Utopian Romance. London, Reeves and Turner (now in Penguin, London).

NewLondonGroup (1996). "A pedagogy of Multi-literacies: Designing Social Futures." Harvard Educational Review 66(1).

Pachler, N. (1999). Theories of Learning and ICT. Learning to Teach Using ICT in the Secondary School. M. Leask and N. Pachler. London, Routledge.

Palloff, R. a. K. P. (1999). Building Learning Communities in Cyberspace. San Francisco, Jossey-Bass.

Papert, S. (1993). The Children's machine. New York, Basic Books.

Preston, C. (1975). Monopoly. Encounter. 10.

Preston, C. (1995). Not just a load of old Tosh. The Times Higher Education Supplement. London.

Preston, C. (1996). Making your life count. T. G. S. s. day. Kingston.

Preston, C. (1998). Is Teaching Less of a Job? Let's Make it a Profession Again. The Independent. London.

Preston, C. (1999). Building Online Professional Development Communities for Schools. Professional Associations or LEAs. M. Leask and N. Pachler.

Preston, C. (2000). Think.com evaluation: internal report. Oracle, London.

Preston, C. (2002). Braided Learning: teachers learning with and for each other. National Interactive Media Association: Learning Together, Tokyo, Japan, NIME.

Preston, C. (2004). Learning to use ICT in Classrooms: teachers' and trainers' perspectives: an evaluation of the English NOF ICT teacher training programme 1999-2003. London, MirandaNet and the Teacher Training Agency www.mirandanet.ac.uk/tta.

Preston, C. (2004). Teachers as Lead Learners: the importance of building professional networks. F. M. chapter. Noordelijke Hogeschool, Leeuwarden, Friesland.

Preston, C. (2004). Training and Transformation. Times Education Online Supplement. London: 22.

Preston, C. (2005). The MirandaNet Fellowship: a community of practice developing self-regulating learning environments for continuing professional development. Self Regulated Learning in Technology Enhanced Learning Environments, Lisbon, Shaker Verlag www.lmi.ub.es/taconet.

Preston, C. (2005). The MirandaNet Fellowship: a community of practice developing self-regulating learning environments for continuing professional development. Self-regulated learning in Technology Enhanced Learning Environments, Lisbon, Shaker Verlag.

Preston, C. (2006). Teachers influencing ICT policy: the power of action research, Torquay, <http://www.naace.org/>.

Preston, C. (2007 in press). "O Brave New World': an interactivist ICT CPD e-community." Technology, Pedagogy and Education February.

Preston, C., M. Cox, et al. (2000). Teachers as Innovators: an Evaluation of the Motivation of Teachers to use ICT. London, MirandaNet.

Preston, C. and J. Cuthell (2000 - 2006). "Braided Learning E-journal, MirandaNet Fellowship." (www.mirandanet.ac.uk/ejournal/ejournal.htm).

Preston, C. and B. Holmes (2002). Capturing the Online Knowledge, Building of Educator: ICTS, Authorship and Living Design. ITTE Conference, Dublin, Ireland, ITTE.

Preston, C. and B. Mannova (2000). Collaboration through Technology Now and in the Future: Linking New Europe with the World. Culture and Technology in the New Europe: Civic Discourse in Transition in Post-Socialist Nations. D. L. Lengel, Ablac.

Preston, C., B. Mannova, et al. (2000). Collaboration through Technology Now and in the Future: Linking New Europe with the World. Culture and Technology in the New Europe: Civic Discourse in Transition in Post-Socialist Nations. D. L. Lengel. USA, Ablex Publishing Corporation.

Preston, C. and D. Squires (1988). Scoop and NewsNet. London, Kings' College and BT.

Preston, C. and R. Wegerif (2005). Teachers mapping the impact of ICT on their professional and personal practice: an evaluation study of different styles of ICT CPD. Virtual Learning, Bristol University, Elsevier/ Computers in Education.

Preston, C., R. Wegerif, et al. (2005). MirandaNet: an e-community of practice. 8th IFIP World Conference on Computers in Education, Stellenbosch, South Africa, IFIP www.wcce2005.org.za.

Resta, P. (2002). Information and Communication Technologies in Teacher Education: A Planning Guide, United Nations Educational, Scientific and Cultural Organization - UNESCO.

Rhedding-Jones, J. (1997). The Writing on the Wall: Doing a Feminist Post-Structuralist Doctorate. Gender and Education. Vol. 9: pp 193-2006.

Richardson, L. (2000). Writing: A Method of Inquiry. Handbook of Qualitative Research. N. K. Denzin and Y. S. Lincoln. London, Sage.

Sachs, J. (1999). "Using Teacher Research as a Basis for Professional Renewal." Journal of Inservice Education **25**(1): 39-53.

Sachs, J. (2003). The Activist Teaching Profession. Buckingham, Open University Press.

Salmon, G. (2000). E-moderating: the key to teaching and learning on line. London, Kogan Paul.

Salmon, G. (2002). E-tivities, The Key to Active Online Learning. London, Kogan Page Limited.

Scardamalia, M. and C. Bereiter (1996). Schools as Knowledge Building Organisations. Today's children, tomorrow's society: the developmental health and wealth of nations. D. Keating and C. Hartman. New York, Guildford.

Schon, D. (1983). The Reflective Practitioner: how professionals think in action. New York, Basic Books.

Selwyn, N. (1999). "Educational Superhighways - in the public or private interest? Internet Research: Electronic Networking Applications and Policy." **9**(3): 225-231.

Selwyn, N., L. Dawes, et al. (2000). "Promoting Mr. & Chips': the construction of the teacher/computer relationship in educational advertising." Teaching and Teacher Education.

Senge, P. (1990). The Fifth Discipline: the Art and Practice of Learning. London, Century Business.

Somekh, B. (1989). Action Research and collaborative school development. The In-service Training of Teachers: Some issues and perspectives. R. McBride. Brighton, Falmer Press.

Somekh, B. (1995). "The Contribution of Action Research to Development in Social Endeavours: a position paper on action research methodology." British Education Research Journal: 339-355.

Somekh, B. and N. Davis (1998). Using Information Technology Effectively in Teaching and Learning. London, Routledge.

Stuckey, B. (2005). Growing an on-line community of practice: Community development to support in-service teachers in their adoption of innovation. Doctoral Thesis (in Press). Research Centre for Interactive Learning Environments, University of Wollongong, Australia.

Thurlow, C., L. Lengel and A. Tomic (2004). Computer Mediated Communication: social interaction and the internet. London, Sage.

Turkle, S. (1996). Life on the Screen: Identity in the Age of the Internet. New York, Weidenfeld and Nicolson.

Turvey, K. (2006). "Towards deeper learning through creativity within online communities in primary education." Computers and Education 46 (3): 309 - 322.

Watson, N. (1997). Why we argue about virtual community: a case study of the Phish.Net fan club. Virtual Culture. S. G. Jones. London, Sage.

Wegerif, R. a. L. D. (2004). Developing Thinking and Learning With ICT: Raising Achievement in Primary Classrooms. London, Routledge.

Wenger, E., R. McDermott, et al. (2002). Cultivating Communities of Practice: A Guide to Managing Knowledge. Boston, Harvard Business School Press.

Wenger, R. (1998). Communities of Practice: Learning, Meaning and Identity. Cambridge, Cambridge University Press.

Whitehead, J. (2006). "Constructing Living Educational Theories From Action Research With Others In Enquiries Of The Kind, 'How do I improve what I am doing?'" Braided Learning E-journal, MirandaNet Fellowship.

Whitehead, J. and J. McNiff (2006). Action Research Living Theory. London, Sage.

Wragg, E. C. (1994). An introduction to classroom observation. London, Routledge.

Endnotes

ⁱ A quote from Fellow, Ben Franklin's, Toshiba scholarship case study

ⁱⁱ With this optimism comes a sense that the 'brave new world' of Shakespeare's Miranda from the *Tempest* is achievable if a Utopian vision can be maintained. The attitude of these educators is in marked contrast to Huxley's post modernist novel *angst* in his novel, *O Brave New World*, about the malign influence of science and technology on the twentieth century.

ⁱⁱⁱ An adaptation of Miranda speech from the *Tempest*, Shakespeare. But Shakespeare was a great multi-media man and MirandaNet myth says that he would have said this if he had had a computer to play with.

^{iv} This Utopian vision has its beginnings in Plato's *Republic* and Imabulus' *Heliopolis*, in the third century BC.; Thomas More conflates two Greek words to create the term 'Utopia'; Marx and Engels aimed to create a Utopian world with the less romantically named *Communist Manifesto*.

^v <http://www.mirandanet.ac.uk/fellowship/vision.htm>

The MirandaNet Fellowship, which was founded in 1992, strives to span national, cultural, commercial and political divides to provide an innovative and inclusive forum for professionals.

Partnership with industry and Government is at the heart of the research, development and evaluation processes that underpin and support good practice. Individual learning patterns are celebrated through action research strategies and peer e-mentoring.

Dissemination and publication are central to the Fellowship process. Fellows who share their experience and expertise are building a professional knowledge base about the use of advanced technologies in transforming teaching and learning.

^{vi} This work in progress indicates how recent projects have altered the balance of interests and concerns in the Fellowship

The MirandaNet Fellowship, a community of practice established in 1992, strives to span national, cultural, commercial and political divides to provide an innovative and inclusive forum for professional educators and to influence worldwide agenda on the use of digital tools in transformational learning.

Fellows who share their experience and expertise continue to build a professional interactive knowledge base about the use of advanced technologies in transforming teaching and learning. The individual learning patterns of learners of all ages are celebrated through practice-based research strategies, peer e-mentoring and e-facilitation. Self-assessment, peer review, dissemination and publication are central to the Fellowship process.

Partnership with universities, industry, government and other professional organisations is at the heart of the research, development and evaluation processes that underpin and support evidence-based theory, practice and ethical policy.

^{vii} How do I know you've got any daughters? How do I know if you're even a woman. You expect me to believe this stuff? ;-)

28th September 2007 Comments in an internal mirandalink debate: web communities for children- to bann or not to bann? September 2006 to be summarised in the October newsletter.

viii Kirchner said this rather humorously which can often give a serious intention more impact , “ So let’s drop the guns and swords, call a truce and dedicate ourself to Peace, Love, and the optimisation of the interaction between learners and their instructors, their co-learners, and their environments such that learning and education is effective, efficient and foremost ENJOYABLE to all”

ix A humorous term for the brain

x www.mirandanet.ac.uk/ejournal Etopia volume

xi A quote from Fellow, Ben Franklin’s, Toshiba scholarship case study

xii DevTray is now published by 2Simple who are MirandaNet partners www.2simple.co.uk

xiii A quote from Fellow, Ben Franklin’s, Toshiba scholarship case study

xiv www.suzylamplugh.org.uk

xv www.think.com/en_us/

xvi Summarised from press releases published by Oracle and Ultralab in 1999

xvii The 25 international MirandaNet chapters that have developed cross-cultural and cross-national projects have used MirandaNet and World Ecitizens learning platforms. Other projects delivered on learning platforms include Enlaces, Chile; Sonera, Finland; Think.com, Oracle international; Elapa, South Africa; the General Teaching Council (England); SENNET- EU (Portugal, Czech Republic, Spain, Slovakia, Sweden); Promethean World, between China, South Africa, Mexico and the UK: DFES TeacherNet resources;; Pinchmill Primary School, Bedford and Hermitage Primary School in Towers Hamlets; ICT CPD programmes for Chafford Hundreds, Essex and Westminster Academy, London using Connectix; higher education courses at the Institute of Education, University of London using Level 10 and First Class.

xviii www.gtce.org.uk

xix www.reflectingeducation.net/

xx The flower represented the case study summary; the leaves represented the resource, which are, the authors’ summaries and the shared references; the thorns and the branches represent the differing views in the forums and the roots represent the evidence in the case study on which the discussion was based. The full rose represent the learning statement provided by the teacher author which offered a holistic, ‘gestalt’ reflection on what progress each individual had made. Finally, the opportunity for peer review was represented by the braids that tie the roses to the supporting stakes or hold an arrangement together (Figure eleven). These braids are where the individual threads of thinking are joined together to make a strong braid of communal knowledge that has been socially constructed.

xxi Learning platform procurement framework
<http://ferl.becta.org.uk/display.cfm?resID=18002>

xxii Comments in an internal mirandalink debate: web communities for children- to bann or not to bann? September 2006 to be summarised in the October newsletter.

xxiii xxiii Mavers, D., B. Somekh, et al. (2001). "Interpreting the externalised images of pupils' conceptions of ICT: methods for the analysis of concept maps." Computers & Education 38: pp.187-207.

xxiv The emergence of weblogs has spawned a whole range of additional applications and terminologies. Mobile blogging, or moblogging, is the ability to update blogs while on the move using devices such as mobile camera phones or PDAs (personal digital assistants). Video logging, or vlogging (and more recently vog), is the practice of blogging using video. The term relates to blog entries actually delivered by video, rather than a video uploaded as part of a blog entry. Rostrum camera techniques mean that teachers and students can create video from still images by using the software's pan and zoom, transitions, music, sound effects and narration. The images can be from a still camera.

xxv Podcasters create audio files, such as MP3 files, and then make them available online. From there, the podcast can be registered with content aggregators (gatherers of web content) for inclusion in podcast directories. Users can browse these directories, and subscribe to specific podcasts.

xxvi <http://en.wikipedia.org/wiki/Wikipedia>

xxvii I am a member of NAACE as well as MirandaNet and there has recently been a lot of discussion about patents being applied for in the European Parliament by a company called Blackboard Inc. that I suspect more teachers should be aware of. Putting things very simplistically, the patent would have serious implications for the development of learning platforms and VLE's in the UK, indeed it could inhibit developments for educational platforms in future. For those of you who are interested or concerned about this, there are more details in this document http://www.alt.ac.uk/docs/ALT_Blackboard_20060823.pdf

A précis of Becta published information about this here: <http://www.l4l.org.uk/content/view/104/1/>

If any of you feel strongly enough to want to contact your MP or MEP, you should find their contact details on this website: <http://www.theyworkforyou.com/>^{xxviii} The more people bring this to the attention of their MP/MEP the better the chance that they will actually look into the matter and hopefully stop this patent being granted. Joan Laws

In relation to this message, Blackboard Inc. are trying to claim the patent all over the world for learning platforms. Enrique Hinsotroza and I will be putting an entry in the wiki about Newsnet which a group of teachers and myself wrote in the late 1980s, and about Enlaces which the Chileans developed. These all had elements of learning platforms in them. I would be very pleased if the long term members of MirandaNet can come up with other software which precedes Blackboard which illustrates community ownership of these ideas. http://en.wikipedia.org/wiki/History_of_virtual_learning_environments Christina Preston

xxviii Naace website which provides resources to help schools consider what needs to happen in order to 'transform' learning. <<http://www.future-learning.net>> which boldly states that:

"The Future Learning Toolkit is more than a self review of existing practice. It maps out an ambitious journey to go beyond what is currently accepted as best practice, in order to make the systemic changes needed to be transformational rather than just optimal."

xxix www.reflectingeducation.net/

xxx Dr John Cuthell, MirandaNet's research and implementation director, has been a member of MirandaNet since 1998? both as a teacher and as a full time education consultant. His work with members face to face and online as well as his learning platform designs has been a core strand in the development of the e-community and the underlying theory of participation.

^{xxx} Keith won a MirandaNet scholarship to join a practice-based course on e-learning which is where he began this study which is published in the MirandaNet Braided Learning e-journal . He continued in a further study with other schools when he left classroom teaching to become a teacher educator.

^{xxxii} Interesting that Coles and Dobson are both journalists recording these sentiments from Fellows.

^{xxxiii} As the UK queen quoted Groucho Marx on her 80th birthday, “ There is no great secret about getting older. You just have to live longer.”

^{xxxiv} The project will be launched in November 2006. Artefacts will be shown on the World Ecitizens website www.worldecitizens.net

^{xxxv}

^{xxxvi} http://www.worldecitizens.net/wecitizens/peace_room/

^{xxxvii} www.mirandanet.ac.uk or www.pelrs.org.uk