

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

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

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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 spanning fifty years, is organised in three periods. The first section, The Past, 1950 – 1991, is an auto-ethnographical account of the influence of computers on education by the MirandaNet founder, and author of this thesis, about her education, her teacher training and her first years of teaching. The data in the section, The Present, 1992 – 2005, covers evidence from MirandaNet members about their learning. The Future, from 2006, looks at the learning trajectories of MirandaNet 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, These 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 fourteen years of the Fellowship. Key findings show that the professional influence exercised by the organisation is moving increasingly from the input of individuals to collaborative web-based interaction. Overarching this is the increasing evidence for the application of web-based affordances for ethical purposes.

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Chapter One

**Researching a
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The organisation of the study

Chapter One explores the literature relevant to communities of practice (CoPs), explains the methodology of the study and presents the research questions. The analytical framework is also illustrated that is to be the backbone of the interrogation of the data for each episode in the Past, The Present and the Future in Chapter Two. At the end of each of these three sections is an immediate analysis of the material organised against the appropriate communicative strata and the emerging pedagogical models. In Chapter Three MirandaNet is discussed from the point of view of a collaboratively designed Utopian artifact. The key findings about the MirandaNet Fellowship policy and practice are then presented under the headings from the point of view of education professionals who are active in promoting learning within local communities and between these communities by transversing global boundaries.

The international focus of the study

The MirandaNet Fellowship, founded in 1992, is the focus of this study. Communities of learners, like MirandaNet, have been described over the years as communities of inquiry (Dewey 1916), communities of practice (Wenger, McDermott et al. 2002) and as a knowledge forum (Scardamalia and Bereiter 1996). The MirandaNet Fellowship itself has been defined as 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 there are more than four hundred members in forty three countries: a mixed group of educators, ICT policy makers, teachers, teacher educators, researchers and commercial developers. These members 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 a 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 every day by educators who want to share this practitioner-authored knowledge. This indicates the value of the resources for other teachers.

Fellows often join 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 has three aims. The first aim is 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 second aim is to explore the opportunities to encourage active professionalism in an e-community that includes building a knowledge base and the pedagogy of digital tools. The third aim is to comment on the responsibilities of an e-community to contribute to world e-citizenship.

Leask, who is a MirandaNet Fellow, also takes an optimistic stance on the potential of e-communities. Leask, who has been influential in the development of teachers' networked communities like TeacherNet, the MirandaNet Fellowship and IDEA communities. 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 in the Utopian tradition. 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 that militate against the democratisation of learning for both teachers and children (Halpin 2003).

MirandaNet Fellows see digital technologies as a means of combating these twin obstacles to change. 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

This study has been developed to support the MirandaNet Fellows in thinking creatively about what they have done and how they want to progress. As a result of this aim the MirandaNet mission statement has been analysed to decide how to interrogate the data. This is because the mission is the latest statement about how the membership see their Fellowship developing:

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. 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. 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.

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.

According to Kim, who has supported the development of a range of e-communities, the existence of this kind of 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). 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 because the Etopian ideals of the Fellowship have been revisited in the mission statement every year for the last fourteen years online^v. 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, 2005-2006 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 mission statement for 2007^{vi}.

A study of previous mission statement indicates that there have been significant changes in how the membership understand pedagogy which is now seen as interactive and lead by members:

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. 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.

To trace the evidence for this statement a single overarching question emerges from the analysis of the mission statement:

How have the characteristics of the emerging pedagogies developed at each stage of this community of practice development?

A further analysis of the mission statement has offered ? subquestions to use in investigating the data:

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. What did the researchers and the teacher researchers discover about the affordances of key digital technologies in transforming teaching and learning at each stage?

The overall analysis of the mission statement also presents two themes which are used to identify the relevant literature. These two themes are 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 theme is about the responsibilities of an e-community in contributing to world e-citizenship.

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. 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 that 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 who 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). Wenger began to explore the role of the Internet as a key component of contemporary communities of practice in 2004. However, it is still the case that some 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 only 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 (Engeström 1999; De Laat 2005; Dillon and Tearle 2006).

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). 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. 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 could only be answered by MirandaNet 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. The failure of the online services undermined teachers' confidence in ICT. In addition, this failure of the 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.

Iterative and cyclical processes are more difficult to capture for research purposes than the hard evidence of testing what facts have been 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). In his study he started by researching a network designed for the police. But the police, who were not used to this mode of operation, were too slow in learning to use a network to provide much evidence. So De Laat had to turn back to researching e-communities of practice that tend to disperse when the academic course is over. This approach, as noted, presents a different context from the MirandaNet e-community that members do not leave although their 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 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 clubs 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^{vi}.

E-community responsibilities in world e-citizenship

Government education departments, universities and educational institutions are increasingly promoting e-learning across the world. In 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).

Working in this international arena, means that 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^{vii} (Kirschner 2006).

UNESCO, in support of this view, describes 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)

Overall this seminal phrase, ‘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). This study aims to further this MirandaNet contribution to global debates about the relationship between the affordances of digital technologies and shared learning developments in e-communities in three ways: firstly considering the use of communities of practice in the building of professional knowledge; secondly the spreading of democratic participation in classrooms and thirdly the nurturing of political and ethical values. The next section indicates how the research questions that have been devised to provide deeper knowledge about how this MirandaNet CoP works.

The Methodology

In this section the methodology is discussed from a mixed methods stand point which embraces both positivist and post-modernist approaches. 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 (Schön 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 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, a 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 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 five headings below

Choosing an accessible style

Because of the subjective nature of some of the data I chose 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 a space to write between the traditional social science prose and literature in order to stimulate a discussion about working between subjectivity and objectivity, passion and intellect and 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^{viii}. 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 mono-cultural 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, which is a democractic methodology, I have not used external objective criteria for the selection of data, but my professional judgement in selecting data that I believe to be 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 on p. 34.

The full data collection with a commentary has been archived on the MirandaNet website^{ix} 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, on the other hand, most of the material that has been used has already been committed for publication by the teacher authors. Permission has already been granted by the subjects of MirandaNet reports and evaluations as well. In addition I have asked the permission of my family to publish details of the critical life events that impacted on my professional attitudes.

This diversity of material from fifty years of history of learning about digital technologies has been split into fifty years chronological sections: the Past, the Present and Etopia. This division of the data was inspired by an ironic comment in the research literature on ethnography 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.” (p92) (Marcus 1997). 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.

An observation that was particularly useful in deciding what role to accord to myself was the example of researchers who become Active Member Researchers (AMR). They became involved in the community being researched 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) which is characterised by total full-time immersion rather than a partial commitment. The main problem for researchers in this role was the conflict between being fully involved, and trying to preserve enough detachment to be able to analyse what is happening.

Some CMR researchers regularly left the situation for a debriefing. In the same way 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 who 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. The Adler and Adler position on CMR did resolve these issues of objectivity even though there are further subtle differences between being a member and being a founder and leader of a community. 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 do. If they are interested enough to research MirandaNet as a community of practice model they often join, either during or after their study. Three MirandaNet Fellows, for example, are researchers who use internet technology on a frequent basis to erode national boundaries and practice cross-cultural collaborative learning relationships. These three Fellows, Stuckey who is Australian, Zhang who is Chinese and De Laat who is Dutch, 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, and 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 that 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 offered permission take a poetic stance in research writing (Ellis and Bochner 2000; Burn and Parker 2003). Their studies of ethnography support the recording of affective factors in the data from a subjective point of view.

The series of critical incidents, in this study, enter the affective category because they 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 offer vital insights into a person or a situation that will never be repeated (Wragg 1994). The importance of the irregular that Wragg perceives is sometimes ignored by quantitative research when it relies too much on predictable, traceable patterns. In addition, the telling of stories can also involve the research audience in greater ownership of the results because they relate to similar experiences. In this paper insights are 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 learning.

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 are also agents for change

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 (P1062- 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 this final section of Chapter One, Figure One is explained in detail as this is the organising structure for the presentation of the data in Chapter Two. This chart is a summary under key themes of the data held in the MirandaNet archives.

The inductive themes shown in Figure One which follow the line of the main questions 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 following the key questions based on the mission statement.

<p>6. Digital affordances Gender investigation m u l t i m e d i a l a n d i t e r a t i v e r o l e o f t h e l e a r n e r</p>	<p>4 . K e y c r i t i c a l i n c i d e n t f o r a l l e a r n e r</p>			
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In the first place the table indicates how the data has been split between the three periods in the first column:

The past: (rows A and B) pre-MirandaNet data 1955 to 1991,

The present: (rows C, D, E) Three MirandaNet pedagogical models, 1992 to 2005,

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

The data from representative projects has been mined to find tentative answers to the questions above in the chronological sections which cover my individual learning processes

from 1955 to 1991, how they paralleled the growth of the Fellowship over fourteen years from 1992-2005 and what the future seems to offer from 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. These headings were derived from an investigation of the data that was available as well as the themes which were also prevalent in the literature and the questions that emerged from that review:

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 a simplistic method of dealing with a situation in which some theories overlapped. The column is used to trace patterns of thinking and practice that were emerging in the Fellowship. This impression that MirandaNet thinking was overlapping with developments in other e-communities is further complicated by the fact that some key theorists joined MirandaNet and began influencing e-community thinking from the inside (Heppell 1995; Kress 1995; Somekh and Davis 1998; Loveless and Ellis 2001; Wegerif and L. 2004).

The first two models for learning in the diagram were most prevalent when learning was largely seen as a solitary activity from 1955-1991, These models are:

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 models 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. These models are:

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

Braided interactive e-communities creating theory policy and practice

The detailed description of the data in 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 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^x 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 are 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 Xmas 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^{xi}), 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 (Schön 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^{xii} 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^{xiii}. 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 advanced 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 in the early 1990s (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). Franklin 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 partnerships 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 in books edited by MirandaNet Fellows on the insights they had gained into the workings of democratic classrooms (Leask and Meadows 1999; Leask and Pachler 1999). Political insights on the New Europe were shared from the Czech and English perspective (Preston and Mannova 2000). Potter added to the MirandaNet mythology by leading the general agreement that 'one day courses in ICT were a waste of time. In this context Preston advocated long term approaches and community support (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 Four 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 on the design of the hardware and on ICT policy about laptops for teachers.

The communicative strata

In this section Leeuwen and Kress's communicative strata, **discourse, design, production and distribution**, are illustrated through the following description of the MirandaNet/Toshiba CPD programme. 'Action research' as the learning process was then called, invited the teachers not just to engage in discourse about digital technologies, but also 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^{xiv}, research, development and evaluation which involved both teachers and learners. Think.com was a new breed of software, a learning platform, designed by Heppell, at Ultralab, 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 ^{xv}.

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 who with.

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 for the US department that funded this European experiment.

Within six months of 9/11 the 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

Heppell 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. These programmers observed that the standards of English 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, 7 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 attained 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.

Fellows felt that the challenge for teachers could not be underestimated in managing the activities of students in learning platforms. Evidence indicated that a six months lead-in was required to show evidence of value. Systemic change took more than a year and was usually located in single classrooms rather than throughout the school. Most of the Oracle Early Adopter had some vision about what might be possible, They 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.^{xvi}

The communicative strata

In retrospect it seems that the reason why this learning platform was not widely adopted at this stage was that it was only the students who were involved in the four communication strata. Classroom teachers, on the other hand, were being excluded from the full learning process because of the level of difficulty and lack of time,. 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 online elements of the UK national ICT training project for teachers failed because of unstable technology and lack of specific training. (Preston 2004). The Oracle funders, on the other hand, moved on to develop CDP programmes to enrich teachers understanding of learning platforms .

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 was funded as a result of the government policy in e-learning for teachers because the General Teaching Council for England^{xvii} (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 the GTC staff. After the course 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 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 emphasized teachers' professionalism, the UK government were engaged in requesting consultation from teachers on the e-learning strategy (DfES 2003). The government director 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 e-learning^{xviii}.

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 could 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 (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 (Figure 13).^{xix}The discussion of these familiar images 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

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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).

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 progressively built together a co-constructive learning community. The process was that of shared knowledge construction where participants were able to build on and question each others ideas in order to improve and develop them through a process of shared reflection. In particular, Cuthell, who was relating their progress to the five-step Salmon development stages online, traced the potential of a sixth step emerging that MirandaNetters were calling 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 stratum which e-facilitation introduces is interaction.

The example of interaction as a final process in the sequence follows. The students who were 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 generating online activity which usually tailed away if it was not supported creatively by an e-facilitator. 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 illustrated a skill which was different from the skill required to teach face to face 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 to expect all schools to have learning platforms by 2009^{xx}. 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.

But learning platforms are often still repositories of static information. The Fellows, on the other hand, are progressing to the use of interactive wikis, blogs, vodcasts and podcasts that are changing the styles of communication. They are also discussing the implications for children and schools of free web applications like My Space and UTube that offer both greater publication freedoms and accompanying responsibilities. The greater international range of the MirandaNet membership now indicates that these issues are emerging in nations as diverse as Australia, Africa and China.^{xxi} The next section shows how Fellows are engaged in creating practice rather than stopping at the strata of rhetorical discourse.

The project

Etopia project has been chosen as the final overarching 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 the Westminster Academy in Edgware in London. This school provides transformatory education which is put the learner at the centre of the 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.

World Ecitizens is a charity set up by Fellows after the events of 9/11, that aims to give an internet voice to young learners. This school in London is, therefore, an appropriate setting to test the power of digital technologies in bridging cultural divides since most of the students are Muslim living in a nominally Christian and democratic country. The Westminster Academy students are the designers of the new Etopia multilayered project website working with a programmer supplied by LogicaCMG(Figure 16). 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.

The digital affordances under investigation

Wikis, blog and podcast functionality have been also 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.^{xxii} 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.^{xxiii} 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^{xxiv}. This affordance has marked a new direction in Fellows' braided evidence activity.

Key critical incidents for lead learners individually and in groups

Clark, now a Senior MirandaNet Fellow, 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 16, 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 that 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 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 (Figure 17). What is interesting about this highly literate member's post is that, in the interests of speed and familiarity, she has not followed written grammatical codes. Her writing is closer to the way in which young people use blogs and mobile phone text language. This kind of informality is growing amongst teachers in the MirandaNet forums. The personal nature of her communication might have been the trigger for a more informal mode of written expression. Other MirandaNet members who are gaining confidence in modes of informal communication using these tools; podcast, blogs and wikis now demonstrate 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 still receive all the news and can participate in the debates.

The immediacy of email and the emailed newsletter are this still effective way of generating discussion in which the less technically knowledgeable or well-equipped members can join. For example, there was a lively discussion in March 2006, recorded in *How do we know or measure what effect ICT is having on achievement levels?* (Figure 18). In this discussion on mirandalink that received over thirty contributions, Ó Murchú, used capitals for emphasis which is understood as shouting. In reply, Nutt, a Fellow, who had been a teacher before being a company developer, insisted that children do not learn very much unless there is some form of guidance and some assessment guidelines (Cuthell 2006). These well articulated arguments not only helped the debaters to explore the point, but provided a critical moment for another teacher who commented:

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 (Cuthell 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 19 shows a sequence of messages sent to mirandalink which began a campaign about this patent. In a sequence of messages the teachers worked out a plan and advised members over several days to research the appropriate websites and fight the patent. The method advised was to participate in a wiki

which was to outline the international e-communities' previous experience of designing similar learning platforms before Blackboard appeared as evidence of 'prior art'. 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 e-community. MirandaNet, NACCE and ACITT members were cooperating in this exercise. This sequence is evidence of the growing opportunities for digital democratic participation^{xxv}.

The communicative strata

These learning processes can be defined in terms of Kress and van Leeuwen's communicative strata in *Multimodal Discourse* (2001). 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 a new phenomenon, the emergence online of group **interaction**. This is a fifth process in the sequence 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 had been developed in partnership with the MirandaNet Fellowship for the DfES and the TDA^{xxvi}.

The dominant learning model

The term chosen to identify this emerging phase of MirandaNet **interactivity** 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. It is 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 two volumes in *Reflecting Education*. The first one focuses on teachers' experiences of e-learning and the second one focuses on new approaches to multimodal literacy in teaching and learning^{xxvii}. By working with academics these teachers have raised the level of their academic writing, but still ensured that the work-based content is accessible to other practitioners (Howell Richardson and Preston 2005; Howell Richardson and Preston 2007). By the time they participated in the second volume they had influenced the academic agenda by providing an index in the form of a concept map (Figure 21).

Chapter Three

Understanding the potential of the Etopian ideal

The organisation of Chapter Three

Chapter Three revisits the research questions that were asked in Chapter One in order to promote a wider discussion of the pedagogical models across the three periods: past, present and future. The detailed relationships has been found in the data between the MirandaNet mission statement, the e-CoP processes and the digital technologies available. In this conclusion the findings from the Past, Present and Etopia are now used to provide more detail about how have the characteristics of the emerging pedagogies developed at each stage in this community of practice. These issues are discussed under three headings that follow the topics of the sub-questions that were originally posed in Chapter One: individual pathways and group journeys; thinking together; digital technologies and learning. Finally the analysis explores what has been learnt about the two themes: the opportunities membership of MirandaNet offers to encourage active professionalism in an e-community and about the responsibilities of an e-community in contributing to world e-citizenship.

A discussion of Etopian issues

Individual pathways and group journeys

Looking down the column in Figure One, Key critical incidents for a lead learner, it is easy to see how key incidents do impact on the understanding, not only of the individual but the community where they chose to tell their story. The founder's and the members' perspectives on aspects of learning and digital technology can be a profound way of developing new insights. These 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. For example from 1986 – 1991 the founder was free 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 was one where teachers were told what to do rather than being consulted. This is the reason why the first witness, Franklin, celebrates the 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 the commercial agenda for learning platforms that leaves the teachers and the learners needs behind and disenfranchises members. Thirdly, and much later in 2005, 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 in 2006 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. Some teachers, like some children are early adopters who both lead these debates and mentor those who find online debate more difficult. This interaction online blurs the status of education professionals who have different, but more equal roles within these e-communities.

From 2002 the critical incidents increasingly 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

relevant practice-based evidence easier to undertake in a time frame which means that the case study is up-to-date.

Another new development is the extent of cross posting between e-communities. The interactivist e-communities in column nine of Figure One not only interact between the insider members, but some core members are also connected to other learning nodes. This means that the online content of professional discussions is now being shared between professional groups as well. This process is far more immediate than the slower learning 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.

Assessing Learning Together

Traditional modes of assessment are seen in MirandaNet as a key barrier to change in teaching and learning. In this section the flow of knowledge between members is discussed in terms of the gap between what they know and what conventional tests can assess.

Columns five, six and seven in Figure One show how the cumulative and iterative roles in the e-community of members build up. This is a complex membership of international teacher educators, teacher researchers, company partners, policy makers and researchers who themselves change roles in the lifetime of their membership. What is significant in the ways in which the membership is building new approaches to learning is the evidence for cumulative and complex roles built up by the learners and lead-learners in online and face to face exchanges. By using practice based research the learning agenda is beginning to be set by the group consensus, not by tutors or e-facilitators or any leading individual.

In the case of MirandaNet Fellows who are engaged in practice-based research, they decide what projects they want to run and what debates will be useful to them. In turn the

Fellows supply the interactive content rather than seeking it in the writings of others. This mentoring approach becomes clear in an exchange between the Teachers as Researchers (TAR) teachers about what kind of learning they are achieving colleagues evaluate how they have learnt from the MirandaNet TAR course in Figure 19. 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 to increase interactivity.

'Being taught' is not mentioned here which indicates the change which has taken place in the teachers' views. They are thinking about supporting and scaffolding learning, not the mere transmission of information.

This kind of thinking also impact on the notion of assessment which has been a key subject in MirandaNet 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 not the (imagined) reality behind that goal are any longer serviceable or sustainable (Jewitt and Kress 2003).

This comment highlights the situations where students produce an artefact that 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^{xxviii}. But the reverse is also true. The new Etopia project, for example, which is being designed by young World E-citizens might be a means of introducing senior learners to the wisdom of the young who are mapping the world they want.^{xxix}

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 only covered the design and production processes of an ICT project in the classroom was criticised because teachers were not introduced to the literature at all. Therefore, the teachers were working isolation in their classroom unaware of relevant developments in their area of study. (Saunders 2002; Lamb and Simpson 2003 ; Whitehead 2006). As a result of this thinking MirandaNet courses are based on practice or work based principles which ensures that the literature is studied. However this undertaken in a way that teachers can relate to.

These efforts to balance demands for course at a professional level that are also engaging still leaves some issues unresolved in terms of assessment. The tutors of the TAREL and TAR courses asked some serious questions 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 that 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 evidence for these conclusions is still emergent but growing as more practice-based course are run in this mode when assessment becomes peer review or self and group assessment. Essentially this becomes formative assessment for the improvement of learning not a summative exercise. By 2005 the early adopters group, mainly teachers, are experimenting with these innovative modes of learning through assessment.

Digital technologies and their impact on learning

In this section the evidence is investigated to discover how the affordances of key digital technologies described in column three of Figure One have had a role in transforming teaching and learning amongst the MirandaNet members. The first element that emerges from the data is the history of what has been available and how this has impacted on learning. The 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.

Looking at the history that has been recorded here, early project hardware and software offered more access to information, a wider range of communications opportunities and more learning freedom, physically and intellectually 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 that 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, chat rooms 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 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. The 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.^{xxx}

The technology that seems to have most promise in terms of collaboration is the wiki that is already altering MirandaNet practice. It provides a way of sharing information in collaborative text in the form of meeting minutes that 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 that has gained popularity very quickly as a trustworthy source of information. There are some entries however, like that of George Bush, where contested facts are entered by his opponents. His political marketing personnel keep a constant watch on this entry. What is challenging about wikipedia is the notion that anyone may have important and

useful information and knowledge. A world stage now exists for the development of global knowledge updated on a daily basis.

A major question for MirandaNet Fellows, on what kind of ICT CPD can encompass what is known already, what is known globally and still leave space for what is not yet known and for technologies that are not yet invented. A new technology may take one year to gain a place in global learning. Most course syllabi take at least three years to be designed and approved. Teachers ownership of their learning and their formative assessment seems to be the key. 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. In MirandaNet courses which are process driven not information driven the teachers decide the topic of their study (Cuthell 2006).

A crucial factor in that emerges in the history of MirandaNet relationship with technology in teaching is the engagement with the Kress and Van Leeuwen socio-cultural strata of discourse, design, production, distribution shown in column eight. In the ideal MirandaNet scenario teacher participants emerge from a CPD experience which is the discourse, They are then ready for to design their own learning agenda and produce a multimodal assignment which is the product. 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 and share ideas. However this is all very directive in terms of the information that is shared.

This element of sharing that is achieved online suggests a fifth communicative strata called 'interaction' which has been inserted in the last section of column 8. This is suggested because it is in this interaction that learners have to defend their world perspective, share it

and modify it. Distribution of this community view can then take place using the e-community facilities. The effect of the technologies is then seen in Figure One in column nine: Emerging Pedagogical Models. What emerges is a new emphasis on interactivity in learning which is only possible between teachers over a long period of time because of internet technologies.

This interactivity is at the core of the emerging pedagogies presented in column nine. Interactivity is an Etopian ideal in learning because it implies that whatever is known by the individual is shared, adjusted and validated by the vision of the community in real time. In most professions tasks are completed by groups of people whose skills are complementary. In contrast, in schools students are still engaged on solitary tasks set by teachers. The teachers themselves are often on post-graduate courses that require them to complete essay assignments without help. These essays are filed in cabinets so that the knowledge that has been gained is not shared and developed.

The evidence suggests that the potential for interactivity in learning provided by digital technologies is beginning to challenge these academic assumptions about what is effective learning. The stages of progress of increasing interaction in MirandaNet have been observed in the three pedagogical models distilled from the data between 1992 – 2006 (Figure One). This effect seems to be caused by the gradual improvements in digital affordances that permits greater opportunities for collaboration. Each stage in the framework is described again here with the level of digital interactivity noted alongside.

The first stage of the Present, 1992-1998, is when the partners' community, based on notions of a learning institution, exchanges key knowledge largely face to face although word processing and desktop publishing are making this process much easier and more professional. Telephone connections are unreliable and restrictive at this stage which makes email exchange largely a questions of exchanging files. By the time broadband become reliable, 1999-2001, MirandaNet Fellows feel that they are watching young people gaining confidence online. They do not gain ownership of this key field, not see the potential for

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personalisation and transformation of learning in their own context. However, understanding of the potential for the interactive exchange of knowledge appears between 2002 and 2005 when MirandaNet merges on line not just a repository of knowledge but also as a forum. Exchange of multimodal digital information has become more feasible because of the increasing availability and reliability of broadband. In this stage, as broadband technology expands globally cross-cultural braided learning communities emerge. This means that they can draw on the information from other national groups to use in their own productions. By this time the members have become expert in all the socio-cultural digital skills they need to communicate their knowledge and practice in the four communicative strata that were identified by Kress and Van Leeuwin: discourse, design, production and distribution strata (2001). Whilst teachers have the means to publish and distribute in this way their knowledge is both validated and shared. This is the stage when the e-community begins to hone the collaborative skills to have an impact on public, policy, theory or practice. The reason is that the teachers are presenting ideas that stem from their case studies and personal practice that they can peer review and publish in MirandaNet e-journals. Until this point teachers needed the mediation of an educational books publisher or an academic journal publisher for validation. MirandaNet provides them with the means of their own validation of ideas. This opportunity is further evidenced in the publication of two Reflecting Education e-journals that indicate Fellows growing sophistication in this field of teacher publication of evidence of learning practice (Howell Richardson and Preston 2005; Howell Richardson and Preston 2007). This is distribution at its best in terms of professional power.

However, between 2005 and 2006 when this data collection was completed, evidence of a new communicative strata begins to emerge that takes distribution to a new level. This stage of professional learning is called, braided interactive e-communities creating theory, practice and policy. At this point collaborative thinking is underpinned by practice-based research evidence making the published product compelling. This is the point when teachers begin to interweave their knowledge in real time on line to create a new kind of knowledge that is immediate and does not depend on official mediation before it can be distributed. This new

communicative strata, called interactivity, appears before distribution. In many circumstances this process will not happen. But in an e-community, like MirandaNet, the digital affordances provide the opportunity for members to interweave online their impressions of knowledge that is already in the public domain to establish a new collaborative dimension that is then distributed by the group and by individuals in a range of different forms (Preston 2008 in press). The MirandaNet e-journals support interactivity digitally with the affordances of allowing comments on the text by readers and interactive forums.

The key point in the final pedagogy is the growing capacity of teachers, not just to influence professional policy, practice and theory but also, through interaction, to create new thinking in these areas based on real evidence (Preston 2008).

The observation of this emerging new strata, interactivity, is, potentially, a new aspect on how professionals might create policy and practice in the future. In fact, this new process of 'interactivity' emerging in the last column of Figure One requires a utopian purpose that is human rather than mechanistically driven.

The themes

Active professionalism in an e-community

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 concept of communities of practice (CoPs) in the 1990s. This concept is useful in analysing 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 organisation. However, this understanding of complexity 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 (2004). In this context, 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 that have two aims. These aims are firstly to impact internally. Secondly the aim is to connect 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 relating 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).

This emerging understanding of the new professional stance required of teachers is encapsulated in Clarke blog (Figure 16) and Brewster evidence as a parent and a teacher

(Figure 17). Not only have they mastered the new technologies of communication, but also acknowledged a new kind of relationship with students.

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. Similar 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 organizations. 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; teachers and the taught. The interactive communication allows Fellows to address the tacit and dynamic aspects of knowledge creation and sharing, as well as the more explicit aspects. In addition, MirandaNet is 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 organisations. In this context, Fellows find the freedom to share beyond the confines of their organisation also helping 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. This multiple perspective is valuable to the community.

Another way in which professional roles of teachers 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 the MirandaNet editions of *Reflecting Education*.

One sequence of thinking emerged from the TAR and TAREL courses about online learning where the five-step Salmon model was analysed by the students. This model concentrates on data derived from courses with a finite end. Cuthell (2005), a Fellow, who is one of the MirandaNet course designers and tutors, suggested that the top level of the Salmon model, Development, requires students to come back together after their assignment is complete (2002). In his research data, the students in the MirandaNet e-facilitation course move on from Development into Braided Learning modes. In their collaborative learning environment enables the learners to develop independence, 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 ten year old Salmon model is presenting a more traditional approach to online learning in a course 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 moves beyond knowledge construction towards the development of ideas, the main aim for each individual to pass an exam. Salmon comments herself that this aim does not facilitate the exchange of ideas. However, knowledge construction, development and distribution is the key purpose of the MirandaNet Fellowship. Holmes, Leask, Preston, and Younie, all Fellows, present a joint theory of communal constructivist or
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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 (Scardamalia and Bereiter 1996). This learning platform is designed to assist young people to think collaboratively about key questions in the curriculum. Their combined contributions lead 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. Unfortunately Scardamalia and Bereiter 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 itself to MirandaNet knowledge building as well, begins to exemplify in school, the informal ways in which young people are learning out of school.

Cuthell^{xxxi} 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).

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However, despite their facility with the technology, students will not construct valuable knowledge together online without the mediation of a teacher according to Turvey,^{xxxii} another MirandaNet Fellow. 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.

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 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 Western culture. 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 are growing as projects increase in these countries.

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 because the Fellowship is still at 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 that 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.

An e-community contribution to world e-citizenship

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^{xxxiii}. The opportunity for exchange and action also lifts the sense of powerlessness 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.

The data provided evidence of international activity since 1994 that 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 that most clearly illustrates the shifts and changes of emphasis in a long-term relationship is the history of the Anglo-Czech partnership that celebrates its tenth anniversary in 2007. As UNESCO suggests visits between the two countries that have been funded by the EU, Hewlett Packard, Microsoft and Oracle have strengthened community members' resolve.

UNESCO understands the reciprocal process of exchange of information that 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 believed. 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 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 Czechs 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
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outside the current boundaries of Europe in countries like Macedonia 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^{xxxiv}. An exercise in global peace is perhaps the best conclusion that those who build interactive e-communities can hope to strive towards.

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 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 that has been a key theme of this study(Kress 2003).

In a sense it would appear that the Fellowship has reached e- maturity from the point when the investigation of digital tools in teaching and learning was no longer an end in itself. Fellows are now keen to use these tools to ensure more leverage in professional and world affairs for themselves and for the young citizens of tomorrow who the teachers are collaborating 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 the International Journal of Web-Based Communities which is in press and two chapters for books, one being funded by the Christina Preston©

European Union and one 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 professional colleagues 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 E-citizens, 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 Institutionally Focused Study (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 that is the subject of my 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^{xxxv}.

Meanwhile the MirandaNet Fellowship thrives on opportunities like this study to forward the thinking of the group as a whole. This study will be the focus of an e-book developed from an international MirandaNet conference in March 2008. In London, members will contribute their own histories of ICT CPD from the US, the Czech Republic as well as adding their own critical incidents to the framework that has been developed in Figure One. Of course, most members will not be able to attend this conference which will be podcast. All the materials will be posted in the MirandaNet Etopia e-journal where members will be able to comment on the text and add their own contributions as well as discuss the issues in forums. Members are

also discussing producing a paper publication as a wiki. By the time the conference takes place there may be some new multimodal communications technology to test. What is certain is that the membership will be able to judge whether these new tools will be helpful in the task of learning for the future or not.

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)

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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 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.

^{vi} 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.

vii 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”

viii A humorous term for the brain

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

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

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

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

xiii www.suzylamplugh.org.uk

xiv www.think.com/en_us/

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

xvi The 25 international MirandaNet chapters that have developed cross-cultural and cross-national projects have used MirandaNet and World E-citizens 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.

xvii www.gtce.org.uk

xviii www.reflectingeducation.net/

xix 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.

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

^{xxi} 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.

^{xxii} 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.

^{xxiii} 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.

^{xxiv} <http://en.wikipedia.org/wiki/Wikipedia>

^{xxv} 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/>^{xxv} 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

^{xxvi} 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."

^{xxvii} www.reflectingeducation.net/

^{xxviii} 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."

^{xxix} The project will be launched in November 2006. Artefacts will be shown on the World E-citizens website www.world-e-citizens.net

^{xxx}

^{xxxi} Dr John Cuthell, MirandaNet's research and implementation director, has been a member of MirandaNet since 1997, 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.

Christina Preston©

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^{xxxii} 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.

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

^{xxxiv} http://www.worlde-citizens.net/we-citizens/peace_room/

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