An investigation into the processes of e-pedagogy and e-learning in an online community

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ABSTRACT

The central theme of this paper is an investigation into the processes of e-pedagogy and e-learning. It concludes with a model of e-pedagogy with particular reference to the Secondary school environment. From a case study of the observation and description of a pupils' online community, phases in the e-learning process are identified. A key theme of the paper is transformational learning. E-learning is viewed as an emancipatory knowledge creation process in which teacher and pupil interchange roles in a collaborative learning environment. The teacher as facilitator guides the learners through the process of acquiring skills, to the collection of information, which is then developed into knowledge streams for group analysis. The internet offers a global information network and ICT hardware assists in maintaining an interactive learning environment. An important part of successful e-pedagogy, it is argued, is effective e-facilitation.

INSIGHTS INTO E-LEARNING

As a starting point for investigating the particular nature of e-pedagogy and the resultant outcome of e-learning, it is important to have a view of pedagogy and the nature of learning that results from it. Open any dictionary and you will get a rather frugal definition of pedagogy which states that pedagogy is 'the science or principles of teaching'. For the purposes of this investigation the following, more descriptive definition is used in order to investigate the processes and dynamics of teaching and learning:

> pedagogy is about the processes and dynamics of teaching and learning, including the purposes, relationships, environment, management and social context of learning. (Sanguinetti,Waterhouse and Manders, 2004)

A mechanistic view of pedagogy can be seen to have dominated educational thinking for much of the twentieth century in which teaching is seen as the application of external cues and the transference of discrete bundles of knowledge. Whitaker (1995) states that there has been a tendency to view learning as something that educators do to us, rather than as something learners do for themselves.

There is another, exciting viewpoint which provides a different lens for viewing pedagogy. The holistic, so-called 'transformatory' approach to teaching and learning described by Askew and Carnell (1998) seems especially relevant to e-learning environments. This view of learning emphasises the interconnection between the emotional, spiritual, physical and the cognitive aspects of pedagogy. The traditional approach to teaching and learning focuses almost entirely on the cognitive level only. If learning is to produce an effect on the individual, this comes through a change in behaviour predicated on a change in the meaning of experience. Positive outcomes occur when the teacher and the learning process connect with the learner's context. The self is

central, not the pedagogue. The learner impacts on the context and the context on the learner. And this, it seems, is what lies behind the whole of the DfES (2003) document 'Towards a Unified e-Learning Strategy'. The focus of this paper is the vision that access to ICT resources can empower learners and create innovative, flexible learning. In other words, transform learning.

Papert (1980) makes the point that we do not necessarily need a teacher–curriculum focused learning environment for learning to take place in our school. He points out that there is a capacity and desire for self-development in all of us. This can be termed a self–actualizing tendency. In my experience on-line forums seem to display many characteristics of transformatory learning and self-actualisation. This kind of learning environment offers the opportunities for learners to own the experience, as they construct knowledge, by interacting with one another.

Salmon (2002) has had a central role also in developing thinking about e-learning. She formulated an e-learning model which goes through a series of phases.
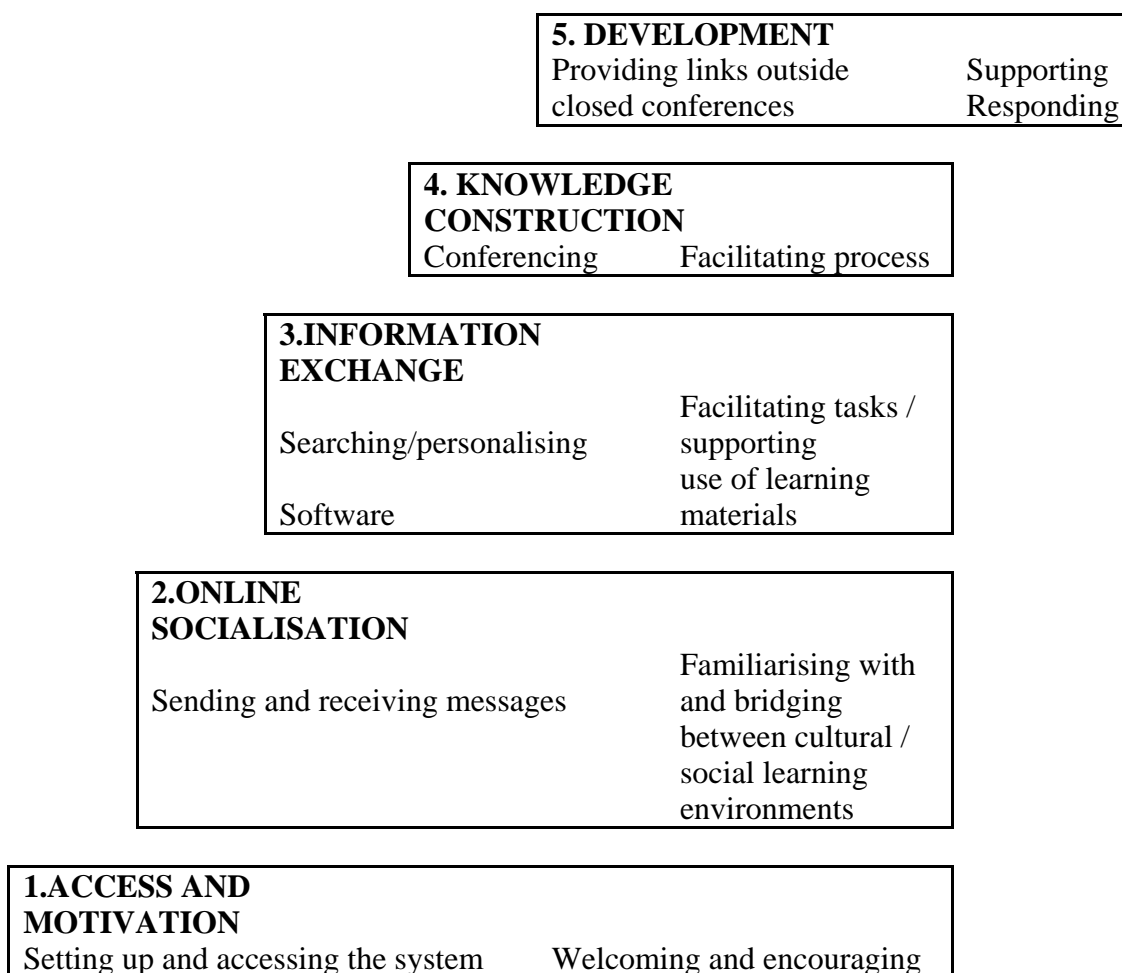
5. DEVELOPMENT	
Providing links outside closed conferences	Supporting Responding

4. KNOWLEDGE CONSTRUCTION	
Conferencing	Facilitating process

3.INFORMATION EXCHANGE	
Searching/personalising	Facilitating tasks / supporting
Software	use of learning materials

2.ONLINE SOCIALISATION	
Sending and receiving messages	Familiarising with and bridging between cultural / social learning environments

1.ACCESS AND MOTIVATION	
Setting up and accessing the system	Welcoming and encouraging

Figure 1: Salmon's Model of Teaching and Learning online through online Networking (adapted from Salmon, 2002 , p. 11)

The model shows the learning processes moving through a series of connected stages: access, socialization, information exchange, knowledge construction and development. It

was used as a framework when establishing the forum for the research project outlined later in this paper.

The transformatory approach to learning discussed by Askew and Carnell (1998) moves beyond individual cognitive development to learning as a social event in a complex and multi-dimensional space, which is typical of multi-media e-learning environments.

Askew and Carnell (1998) describe some key characteristics required for learning to take place:

> Clearly learners must feel that they are in a safe environment in order to perceive the learning to be enhanced. Perhaps not so obviously, they must also perceive the learning organisation as one in which risks are possible.
>
> Learners must believe that their ideas will be honoured and valued and their failures will not be ridiculed. …closely related to a sense of psychological safety is a sense on the part of the learners that they are accepted by their teachers and peers.
>
> In a successful group, learners have support and encouragement to take risks and make changes, be dependent, independent and interdependent.

Indeed, these feelings were mirrored by the participants in a forum set up in the research project detailed later in this article. In order to gain a rich learning experience it is important that participants are allowed to interchange roles between learner, researcher and facilitator.

Askew and Carnell (1998) also make some valid points for e-facilitators. They describe the skills of negotiation, conflict resolution and risk taking as crucial activities to bring about changes in a learning group. This is a useful mental image to have in mind as an e-facilitator as one nurtures a group and develops it towards particular goals. It is also important to consider the nature of the learning environment being created.

This transformatory model is helpful in pointing out the importance of considering the ethical issues of setting up collaborative learning environments and it emphasises the importance of facilitation. It is a lens through which we can view the cultural and social aspects of e-learning. However there is less clarity here, about the life cycle of successful collaborative learning groups, and the ways in which e-learning differs from the more traditional, didactic methodologies.

Technology can help us change the way we learn by making it more possible to place the learner at the centre, in a stimulating interactive environment. However the DfES vision does not identify the key processes involved in creating this new learning environment.

The strength of Salmon's model, therefore, is the identification of phases and roles in the process of e-learning. The learner is seen as being central to the process. Learning is a social experience and in a school context the 'teacher' is the facilitator. It emphasises the point that knowledge construction is a group activity and involves exchange of ideas within and across the boundaries of the learning group. There are some limitations however. Salmon seems to view the teaching and learning process as linear, whereas an iterative cyclical view may be more appropriate. Also, the use of e-learning media beyond online forums or what happens beyond one particular forum event has not been

investigated. Furthermore, the model is based on a distance learning university environment and it does not pick up the complexities of working in the face to face environment of the classroom, combined with building real time and asynchronous learning environments. The research project outlined below was an attempt to identify in greater detail the processes of e-learning and e-pedagogy that may be observed in an on-line community in a secondary school environment.

OBSERVING AND DESCRIBING THE PROCESS OF USING AN ONLINE COMMUNITY WITH PUPILS

The story of the project discussed here begins with a Year 9 class coming into my classroom after a presentation on citizenship. Instant feedback showed that they were frustrated by the lack of opportunity to discuss the meaning and value of citizenship at their own pace and in smaller groups. The group of 12 pupils were keen to explore their ideas. An on-line forum offered them a means to investigate their ideas, in their own space and at their preferred pace. The subject for investigation and the title of the forum was 'The Meaning and Value of Citizenship'

The Research Question

The central research question is: *what processes of e-pedagogy and e-learning can be identified in an online community?*

In recording the learning process and its outcomes I was looking for any patterns or reactions from students, which differentiated this kind of, learning environment. What might be the 'e' be?

There are a series of sub-questions:

What are the processes involved in setting up and running an on-line forum?
In observing the processes, the aim is to model what happens.

How far do the processes match the Salmon model?
The Salmon model, which runs through access, socialisation, information exchange, knowledge construction and development, was developed predominantly in a university, distance learning environment which is quite different in many aspects to that found in the secondary school. Would an alternative model emerge?

Methodology

A questionnaire and mind mapping exercise was administered to/carried out with the students at the start of the project to survey the following:

The questionnaire surveyed the pupils' views on face to face discussion of citizenship issues and why this had been successful or not in their opinion.

Pupils' knowledge about the meaning and value of citizenship was captured on mindmaps before the on-line discussion group was created in order to establish a baseline set of data for comparison at the end of the project. In this way one could sense any additional

learning that taken place during participation in the forum.
Mind maps were chosen as an accessible way to capture information in an informal manner. It allowed pupils to concentrate on capturing ideas and imagery rather than concentrating of the detailing of how to write their ideas in prose.

A questionnaire and a mind mapping exercise were administered to/carried out with pupils at the end of the project to obtain data on the following:

The second questionnaire asked pupils about their views on the on-line forum, how effective they felt it was and how it compared with the face to face sessions they had in discussing citizenship.

Pupils recorded their knowledge about the meaning and value of citizenship using a mind map and these were compared with the maps created at the start of the project.

Setting up an on-line forum

Logistics

A closed forum was set up at http://www.mirandanet.ac.uk.
Access was restricted to the project group, all of whom were given a password when they first logged in with their email address.
All participants could opt to receive replies to their postings by email.

Ethical considerations

In designing a learning environment, consideration of how to produce a safe atmosphere which encouraged participation by members of its community is an important issue.
In an online writing course http://www.ioe.ac.uk/schools/clc/pachler/writing-workshop/ethics.html, Pachler cites a series of references which provided food for thought when setting up an on-line forum. Of particular relevance was Knobel's (2002) article on research ethics. This is a useful philosophical starting point for designing the Code of Conduct for a forum. Knobel makes the point that one must study the ethical issues right from the start. His maxim of "Do no harm, be informed, honest, open and be prepared to practice an ongoing reflection of the research process" has been instructive.

When designing my own research project, initial discussions with participants on privacy and whether postings should be anonymous were issues which were at the heart of determining whether participants felt safe and able to contribute. These discussions led to a Code of Conduct being established which was agreed by all participants and provided a learning environment they felt happy with.

There were a number of issues regarding the conduct of the on-line discussions that were considered before starting up the forum:
- privacy of responses for the participants;
- ownership of the research material; and
- whether a Code of Conduct should be adapted.

A closed forum was chosen so that individuals could feel safe that their contributions remained with the group. At each stage the aims and the outcomes of the research project was outlined to the participants and their permission was sought to release information

coming out of the study.

Discussions with colleagues on the GTCE e-facilitators website provided useful insights.

A sample of these discussions is shown in Figure 2.

> *My posting*
> … When setting up a forum with my own students for my research project, the first thing they asked about were the 'rules of engagement'. They wanted some rules to be posted before they started about respect and in addition they wanted everyone to be clearly identified.
> *John*
> I feel that your last paragraph is absolutely critical. If any discussion is to be taken seriously then all participants have to be accorded respect.
> Without your rules of engagement this can't really happen.
> *Peter*
> This is interesting. I feel that Codes of Practices should be adopted. You may lose some people and some discussion, but if people have something to say, they will say it. The environment is a safe one, and people will not feel intimidated by being in this area.
> So rules of engagement are essential for a decent discussion forum.
> *John*
> Ask the students to come up with a list of five rules and use those.
> Then they can monitor postings themselves. It's a highly relevant issue for Citizenship.
>
> **Figure 2:** Sample e-facilitation posting

Discussion with the pupils participating in the project brought out two points. It was agreed that anonymous postings would make the whole process rather sterile and further divorced from normal conversation. So the decision was made to use identifiable names or abbreviations in the forum. We decided to develop our own Code of Conduct through discussion on-line and a consensus opinion produced the following code:

- Respect the views of others in the forum.
- Do not be rude or swear.
- If you disagree with what has been said, be polite when you reply.
- Try not to digress from the subject matter of the thread.

Facilitating the discussion forum and observing the processes

The forum ran for a period of four weeks and it was titled 'The Meaning and Value of Citizenship'. I facilitated the forum. To capture the processes of using an on-line pupil forum the following data were used:

- *an e-facilitation journal* was kept to record thoughts, issues, problems and attempted solutions; and
- *discussion logs* of the forum were archived for later analysis.

The life of the forum progressed through the following stages:

a.   Getting pupils online

Once the forum had been set up by MirandaNet, participants logged in and received their password. On entering the forum they found a welcome message (see Figure 3).

> Well done for signing on and agreeing to take part in this forum.
>
> We will be investigating Citizenship and what you think it means and why it might be important to you.
>
> First off though, to many of you discussing ideas in an electronic forum is new. Many of you have suggested that we need some Rules of Conduct. So I would like you to suggest some ideas so that we can work towards an agreed set of guidelines for our on-line community.
>
> To start you off here are some ideas...
>
> We should use our real names when logging in for discussions in this forum.
>
> This is a closed forum and is only open to the students I have already mentioned to you or to other that we as a group would like to invite.
>
> So there you are what are your ideas on the Rules of Conduct?
>
> **Figure 3:** Welcome message

There were some members of the group who started straight away and other needed some encouragement and training to show them how to log in, as the entry from the e-facilitation journal in Figure 4 describes.

> So the journal has been running a few days now. Although advertised in class I had to get pupils to log in during class time. There are still a few more to get going. Plenty of promises to log in at home but no a great response yet. Still, four people have made postings.
>
> My role to date has been to encourage, welcome, congratulate.
> It is important not to keep a thread open too long. Change topic name and summarise as you go along. Try and keep things moving. Use questions to offer new avenues of approach to the forum members.
>
> To date we have some simple rules of conduct and this was a useful neutral area to form a basis of discussion for the group. It was important part of the process and even requested by some although others have asked to move on to the central questions quickly.
>
> Even in cyberspace the attention span of adolescent boys is short!
>
> **Figure 4:** Extract from e-facilitation journal

b. Mentoring, encouraging, question setting

In the early stages of our forum, the teacher acted as a mentor and facilitator and this can be illustrated the discourse in Figures 5 and 6. The participants are learning the skills of forum discussion. They are being encouraged to unfreeze their ideas through the setting of challenging questions.

> Welcome Sanj and Alex, thank you for your contributions. If you go to the new thread on Rules of Conduct, so far... you will see a summary of where we have got to. Your comments will be most welcome.
>
> You have to be a careful not to trivialise the debate. Do you think it is part of citizenship to seek retribution, or rather to use the existing legal framework to seek justice?

Figure 5: Extract 1 from online discussion

> Bishai made an interesting point. He feels that as we are not perfect beings it is impossible to aspire to true values for everyone.
> I agree that whatever virtues you wish a society to aspire to, some perhaps many may not follow or adopt them.
>
> However, do we feel that citizenship – or the values of being a citizen might provide a useful model for living?
>
> If so what might be useful values to aspire to?

Figure 6: Extract 2 from online discussion

c. Information collection to sharing knowledge streams

As the on-line discussion progressed a large amount of information on views and ideas was collected. This needed to be summarised by the forum facilitator, or as participants become more used to the forum, they do the summaries and this is illustrated by the pupil posting in Figure 7. Here the participant has become a learner and a facilitator, considering the information collected, sharing a viewpoint and drawing out streams of ideas.

> I think citizenship is about any action you make that benefits your society and contributes to it, i.e. "being a good citizen".
>
> However, I suppose that what I have just said is probably flawed as what you perceive to be "good" may not be to another person, or doing one thing will benefit some people, but may not others.
>
> Perhaps deciding what is or is not a "good" action depends on a mixture of both your perceived views and intentions and the perceptions of the people you affect.

What do you think?

Figure 7: Extract 3 from online discussion

d. Knowledge creation and reflection, an iterative process

As the life of the forum matures the participants are constructing knowledge about the topic under discussion. Figure 8 shows how they are interacting with other viewpoints and reflecting on their own ideas, in an iterative manner, refining their understanding. At this stage the teacher facilitator has now become a learner as well, entering into the reflective debate. More importantly the participants are now facilitators, asking questions of others, and pushing the debate forward as researchers.

> I disagree with Alex to a certain extent: it is as a result of the interference of MEDC's that has caused 'the war against terrorism'. Although they showed there (sic) intentions as being good, it is possible to notice that millions of lives have been affected in good ways but many have been affected in bad ways. Would you consider the 'help' from America as being global citizenship?

Figure 8: Extract 4 from online discussion

A comparison of the on-line processes observed with Salmon's five stage model

Salmon describes on-line teaching and learning as moving through five stages, access and motivation, socialisation, information exchange, knowledge construction and development. In general, the forum observed did follow a series of stages which involved issues of access, motivation, creating a learning community, leading to information exchange and knowledge development. However, earlier in this paper some observations were made about the limitations of the Salmon model. Its origins lie in a university environment distance-learning environment and it is essentially a linear view of the teaching and learning process. I believe that there are useful conceptual additions that should be made, to set the model in the context of a school environment (see 'The Modified School Model' in Figure 9).

Firstly, there is not enough emphasis in Salmon's model on the changing nature of the learning process. One must spend time setting up a collaborative learning environment and this is an extension of the socialization phase in Salmon's model. In this phase of the process, the participants are learners, taking on the access skills and developing communication skills in an unfamiliar medium.

Salmon's model needs to address the transformation that occurs as the collaborative learning environment enables the learners to become independent, analysing the information available to them and generating knowledge streams. In this way participants become researchers and as they interact with one another to develop ideas; they become facilitators.

The learner, after acquiring access skills, moves on to become a member of a collaborative learning environment, a facilitator and researcher with others and to construct knowledge.
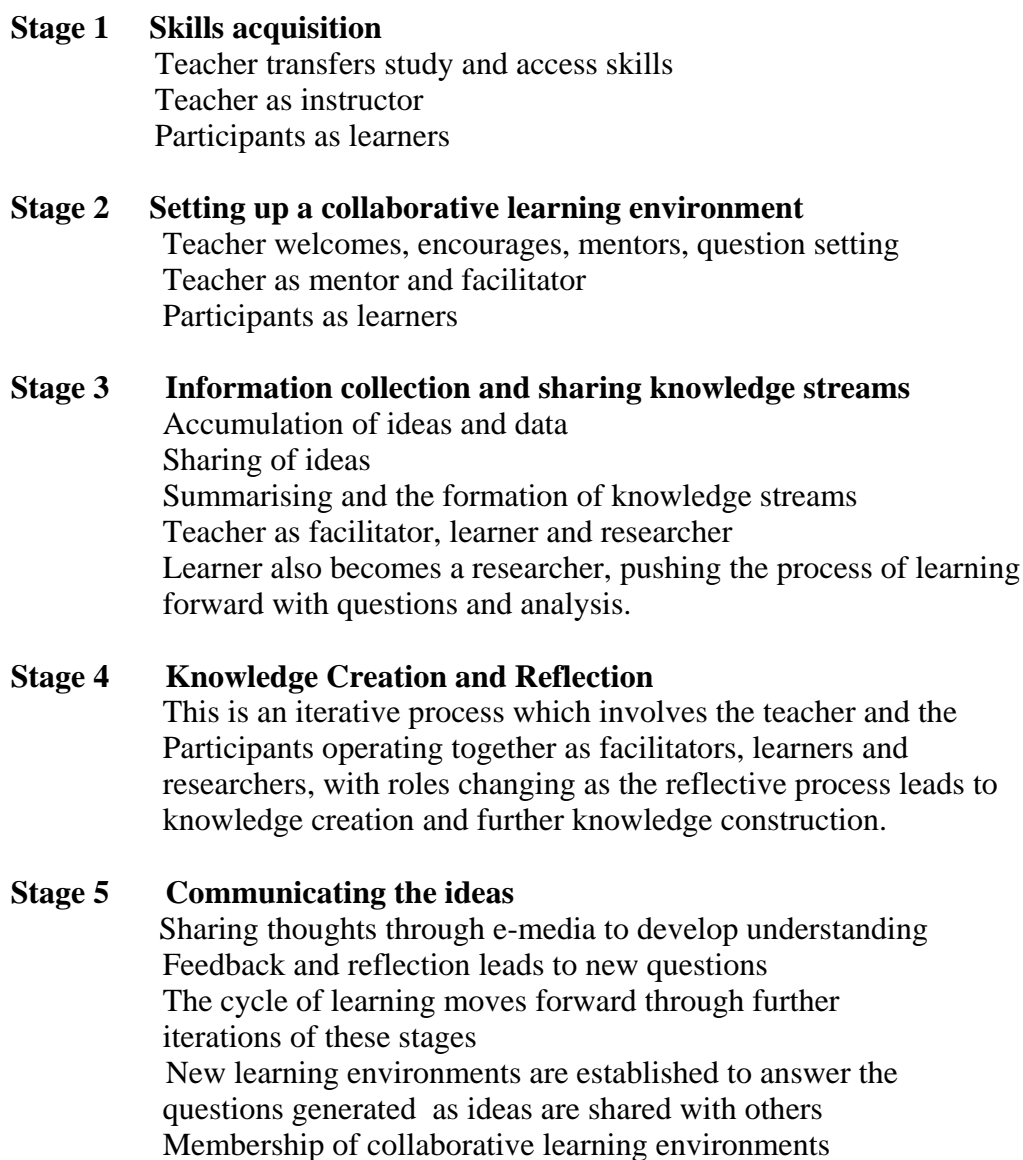
Stage 1   **Skills acquisition**
> Teacher transfers study and access skills
> Teacher as instructor
> Participants as learners

Stage 2   **Setting up a collaborative learning environment**
> Teacher welcomes, encourages, mentors, question setting
> Teacher as mentor and facilitator
> Participants as learners

Stage 3   **Information collection and sharing knowledge streams**
> Accumulation of ideas and data
> Sharing of ideas
> Summarising and the formation of knowledge streams
> Teacher as facilitator, learner and researcher
> Learner also becomes a researcher, pushing the process of learning
> forward with questions and analysis.

Stage 4   **Knowledge Creation and Reflection**
> This is an iterative process which involves the teacher and the
> Participants operating together as facilitators, learners and
> researchers, with roles changing as the reflective process leads to
> knowledge creation and further knowledge construction.

Stage 5   **Communicating the ideas**
> Sharing thoughts through e-media to develop understanding
> Feedback and reflection leads to new questions
> The cycle of learning moves forward through further
> iterations of these stages
> New learning environments are established to answer the
> questions generated as ideas are shared with others
> Membership of collaborative learning environments

Figure 9: Modified School model of e-learning

Furthermore, Salmon does not address the issues of establishing forums amongst academic staff, where there is no imperative of a course or qualifications to be obtained. In setting up a departmental forum for staff to exchange views one needs to 'market the forum'. People need to have a reason to visit a forum. What are they going to get out of it? An initial phase of 'marketing' could be considered to describe this.

What processes can be identified in e-learning?

a. What kind of learning development took place in the forum?

Capturing the views of pupils at the start of the forum on the 'Meaning and Value of Citizenship' produced the following definitions:
- How to be good;
- How society works;
- How you should behave;

- About government;
- The laws we obey; and
- People.

The views expressed in answer to the same question, 'What do you think Citizenship is?', after the forum brought a different style of answer. 90% of the participants wrote a sentence, rather than a phrase, with words such as moral value, responsibility and community or society. A typical response was: 'Citizenship is about being a member of a society and behaving in such a way that helps others and contributes your services to the society.' The responses were confident and offered a more detailed response.

c. How does the experience of the on-line forum differ from face to face classroom learning?

Observing the on-line processes and recording participants' views the following points emerged about learning in an on-line forum:
- more relaxed, time to structure ideas properly;
- slower in time but more efficient;
- there is an archive to look back on picture;
- allows for easier relaxing framing and reframing ideas;
- calmer, perhaps less confrontational;
- not as personal, however, the action of posting on line helps fix ideas and concepts in your mind;
- a different learning culture which is focused on being a learner and constructing knowledge;
- the action of posting ideas on-line assists in clarifying ones ideas and concepts; and
- a richer learning environment in that it covers a wide range of higher ideas and skills than the traditional body of knowledge transfer type of learning.

Modelling the processes of e-pedagogy

My own model in Figure 12 attempts to draw the strands of this project together. It has been built up from observations on this project, analysing my experiences and those of colleague investigating e-learning and sees everyone in a school as part of the learning organisation:
- knowledge is created by learning in different contexts and methods (multi-media);
- boundaries are blurred between the school and the external community (internet and video link);
- roles are blurred and interchangeable;
- the learning process is transparent, open and discussed; and
- expectations are high and learning is a collaborative process.

It builds on the Watkins model in Figure 10 (see http://www.mirandanet.ac.uk/gtc/) in which technology is viewed as helping to bring learners together into a learning community. This mirrors the vision expressed by DfES (2003). Watkins' model pushes this transformational view of technology and the nature of learning further than the creativity and flexibility explored in the DfES vision. The Watkins model sees technology as the catalyst, needed to enable the co-construction of knowledge between learners and to

build learning communities in which divisions between teacher-facilitator-learner-researcher are blurred and non-hierarchical. Co-construction is seen as high level learning.
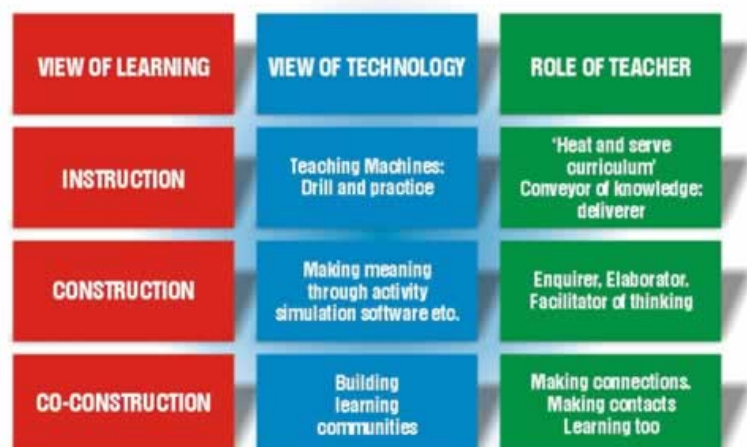

      Figure 10: The Watkins Model

In the democratic, student-centred model in Figure 11 the classroom is seen as a key element in transforming learning. This model shows how the learning process progresses through the stages of skills acquisition, information collection, through to knowledge creation and reflection. At its core is the development of a collaborative environment and the interchangeable roles of the teachers and learners.

This essentially then is the philosophy behind e-learning: a transformatory approach to learning. The students are empowered to own the learning process. Technology assists in developing a collaborative learning environment. E-media provide access to global information which, through group interaction and analysis, becomes knowledge, constructed and shared amongst the immediate group and with others through the internet. In this way we become global learning organisations. These ideas are developed further in Figure 12.
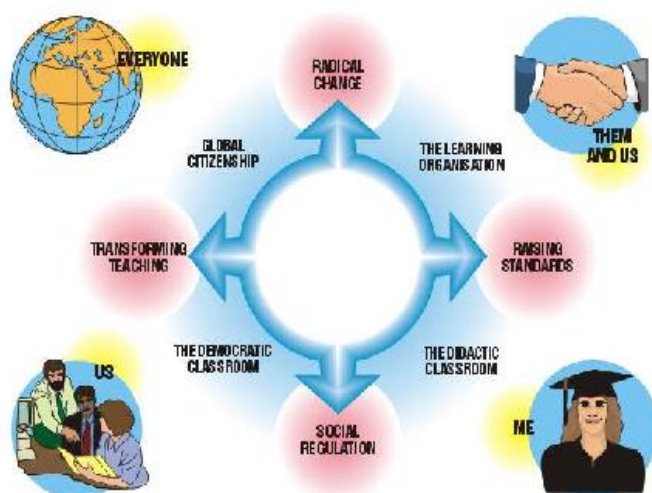

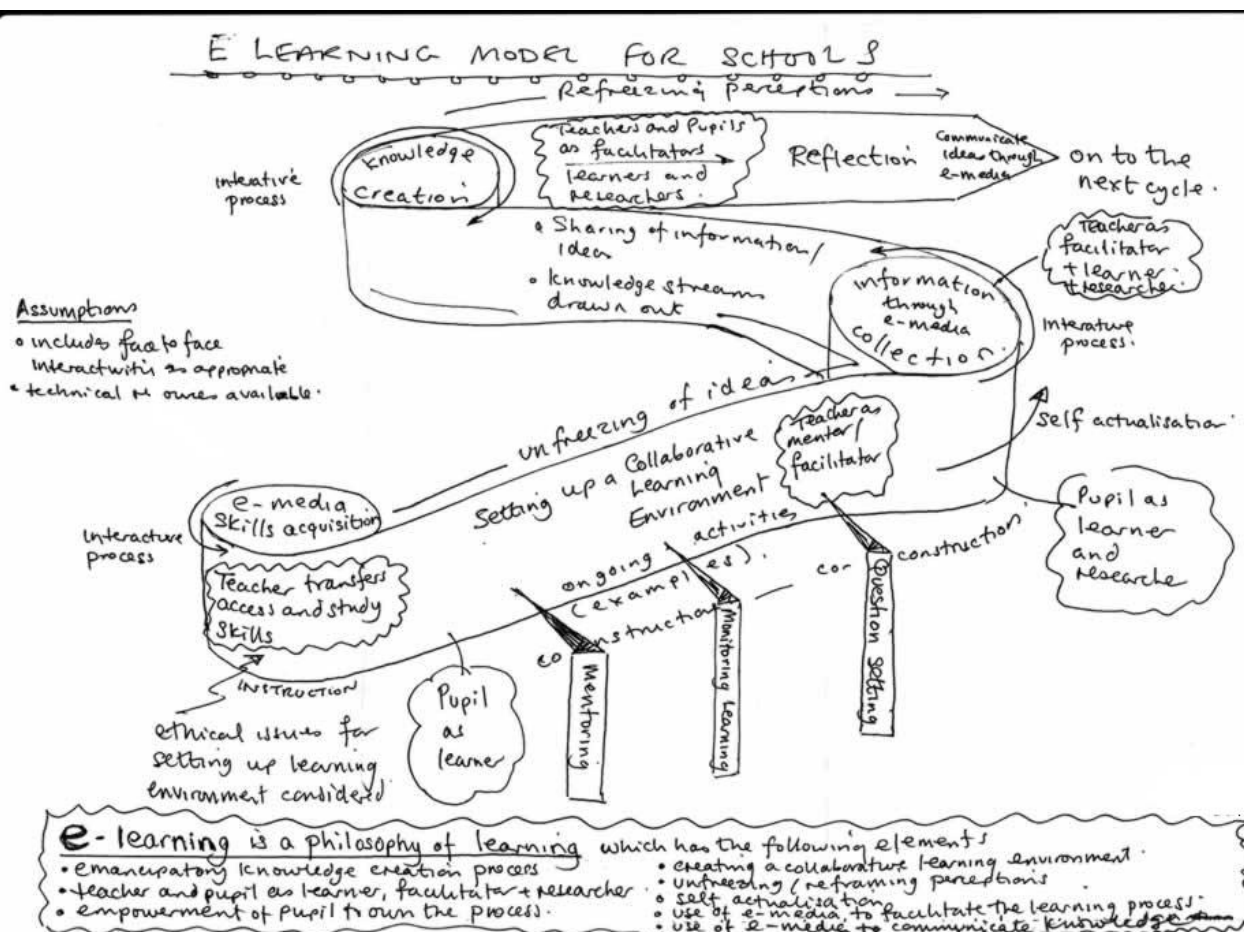**Figure 11:** The democratic, student-centred model

Figure 12: The 'Smith' model of e-learning (Preston and Cuthell, 2005, p. 184)

The Smith model attempts to fill in some of the limitations of Salmon's model and the DfES vision of e-learning. E-learning is an iterative process. Learners progress through a skills acquisition phase to develop the technological, social and intellectual skills to learn as collaborative communities and acquire information. Information is used to answer research questions and the collaborative environment enables the sharing of ideas and analysis to create knowledge streams. Through reflection and communication of these ideas within and outside the immediate learning group and subsequent feedback, learning is enhanced further. This creates more research questions which in turn will lead to an iteration of the process, leading to a phase of higher skills acquisition, information collection, knowledge creation and reflection. The model also outlines the role of the teacher as essentially different from more traditional learning environments. Here pedagogy is shared by the collaborative learning group. Initially the teacher provides a gateway to skills acquisition and is the facilitator. As the learning process develops, roles of researcher, learner and facilitator interchange amongst all the members of the group. We now have a transformatory learning process, the learner and learning is central. Knowledge is co-constructed in a collaborative community, which is democratic and student centred, using technology to enable and enhance the processes with reflection and feedback both within and outside the group through e-media. Learning is a continual developmental process through iterations of the e-learning cycle.

CONCLUSION

I have discussed in some detail my experiences of e-facilitation here. On the basis of these experiences I view e-facilitators as multi-role learning supervisors. They need to assist participants to become confident with the medium and the mechanics of on-line discussion forums. They are the glue which holds an e-learning community together, as well as the carer overlooking the birth, growth and final maturing of a collaborative on-line learning community. Finally they oversee the knowledge creation process, guiding the community to review and reflection on its discussions. There is one aspect that is not well discussed in the literature and that is the need to encourage participation.

In my experience, although email is generally a well used means of communication, the culture of an on-line community is less familiar. In this respect, as an e-facilitator one must 'market' a forum and work off-line to encourage and tutor potential participants. And this leads to a final but important point: in a busy world, on-line forums must clearly indicate what participants might gain from a forum and they should also have a limited life, with regular outputs to encourage future postings by participants.

This set of processes can be thought of as a continuum. The facilitator is a mentor and a coach for members of the on-line community they are sharing dialogue with, identifying with that community, its purposes and developing the modes of communication. At other moments the facilitator is a shaper, moving discussions on and assisting the knowledge construction process. Therefore, one becomes at times a learning technician. Another part of the dimension of the role is that of becoming a fellow learner, with the other members of the on-line community. The e-facilitator's role is being one of the e-pedagogues in the e-learning environment, in which in a real sense all are teachers and learners:
- aid the knowledge construction process;
- summarise postings and moving discussions forward;
- help newcomers feel at home the in the discussion group by welcoming, encouraging and posting informative interactions;
- become part of the on-line discussions as a fellow learner;
- enable participants to write down their thought bubbles on the computer screen and break through the electronic barrier to sharing thoughts, ideas and knowledge on line;
- attend to the silent visitors or observers (a better term, I believe, than lurkers), to assist them to cease floating and to come to rest as a posting;
- possess an overarching or helicopter viewpoint and keep a focus on the forums aims; and
- e-facilitators are vital to the life cycle of a forum or on-line course. They nurture the birth of an on-line community and steer it through its process to maturity, the conclusion of its purposes and the final archive.

We are faced, however, with a proliferation of forums, e-mail and on-line resource centres and learners can be faced with a bewildering array of material and potential interactions. I think that the establishment of 'portals of excellence' will become important, such as the http://www.gtce.org.uk and the http://www.mirandanet.ac.uk communities, so that they become a focal point for best practice, educational debate and gateways to other resources.

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