

How can I improve my practice as co-ordinator of Schools Integration Project 062?

Introduction:

This report is an account of my work as a co-ordinator of Schools Integration Project 062. The Schools Integration Project (SIP) is an initiative of the National Centre for Technology in Education in Ireland. It is a pilot project and its intention is to foster whole school development in relation to information and communication technology (ICT) integration. Our SIP project is entitled Community Empowered and Learning through Technology (CELT).

This account is in part a synopsis of the dissertation I wrote as part fulfilment for my M.Ed in ICT in the Primary School degree awarded by Mary Immaculate College, Limerick (Glenn 2000). It also outlines the action research I have been undertaking (since September 2000) on my work as a teacher using Internet based projects and as SIP co-ordinator.

Chapter 1 describes Internet based collaborative projects and partnership with parents. It also discusses the problems I encountered as SIP co-ordinator. In Chapter 2, the context of my work is described and its relevance to my area of research. I chose to use action research as my method of enquiry, and I have outlined the reasons in Chapter 3. Chapter 4 deals with the project itself. It outlines my concerns with the relevance of Internet based projects and what I did about them, my actions and the evidence I generated to demonstrate their impact and the conclusions I drew from this evidence. The significance of this research may be found in Chapter 5.

Chapter 1: The Focus

As a practising teacher, I have an active interest in the use of computers to enhance the learning situation of pupils. I have striven towards using Internet based collaborative projects (ICPs) to enliven and invigorate my work and to vitalise the learning that was taking place in my classroom. I also would encourage the inclusion of parents and the wider community in these projects. As co-ordinator of Schools Integrated Project No. O62 (SIP) my aims would be similar. The Schools Integration Project (SIP) is an initiative of the National Centre for Technology in Education in Ireland. Our SIP project is entitled Community Empowered and Learning through Technology (CELT) and its aims are two-fold. These aims are as follows:

1. The use of the Internet and Internet based collaborative projects (ICPs).
2. The inclusion of parents and members of the community in our IT initiatives.

While the outcomes of Internet based collaborative projects may often be unpredictable, I would expect that ICPs would enhance the regular curriculum of our school. I would aim towards enjoyable class discussions, and motivated writing. I would also anticipate that pupils would learn about cultures other than our own through these projects. This leaning should include issues such as tolerance of other cultures and insight into their lifestyles. However, I would expect that a certain amount of pride in our own culture would grow as a result of projecting our culture to others. The pupils' own self-esteem or communication skills might also improve during such projects.

The inclusion of parents in our school IT initiatives would help break the barriers that exist between school and home. This inclusion might also help parent/child communications and enhance community self-esteem. As an ultimate aim, this initiative might encourage a small industry to the area which would reduce our high unemployment.

What are ICPs?

Internet based Collaborative Projects invite collaboration between one school and at least one other body using the Internet. ICPs also invite collaboration between the students, between the students and the teacher and perhaps the wider community. The Department of Education in Victoria, Australia (Sofweb2001) has researched widely on ICPs and has described them as projects involving two or more classes, or two or

more schools who agree to work together in a structured or semi-structured project which has educational value. Such projects allow students from different cultural backgrounds to collaborate. The students may exchange ideas, opinions, research, experience, data, expertise, artwork and multimedia presentations on any given theme or topic. Through ICPs, students may be involved in exploring, observing, recording, constructing, problem solving, sharing, discussing, hypothesising, predicting, co-operating and understanding. Media such as email, listservs, conferences (Newsgroups or Usenet), the WWW, video-conferencing, fax telephone and web page production may be used for ICPs. They maintain the benefits of ICPs include increased motivation, improved self-esteem, the development of responsibility and improved organisational skills. Schools of the Future (Sofweb 2001) also acknowledges that ICPs may increase communication skills and encourage the creation of a learning environment, which is inclusive of a range of learning approaches

Berenfeld (1996) comments that ICPs bring real-relevance into the classroom. They also bolster social, communication and critical thinking skills. The human or real aspect of any learning situation is much more apparent when using ICPs than just using text-based learning. ICPs also promote social equity. When on-line, all schools, whether wealthy or poor, have the same access to resources.

Why include the wider community?

Taking into account that in my school, at the beginning of 1999 no pupil had Internet access at home and only one family had a computer, my fellow-teachers and I felt that was important that our families should gain access to computers. As Gaines, Johnson and King (1996: 74) point out: 'Inequities of class, gender, ethnicity and economic disparity correlate highly with denials or restricted access to the tools of technology. The have-nots have increasingly less.' A frightening thought, and one I wanted to avert.

We began a programme of inviting parents into the classroom to spend time at Internet exploration with their children. (Each classroom had one or two computers but only one had Internet access.) This helped somewhat as in theory it allowed everyone access to computers and the Internet, but practically we found that allowing one or two parents twenty minutes access to a computer at the back of a busy classroom was not enough. We also found it slightly disruptive to our class scheduling and I got the impression that the classroom was just too 'public' a situation for parents to try and gain the necessary confidence to feel comfortable with computers.

Then we received funding from Leader 2 Iorras (a European funding initiative for disadvantaged regions) to run a parents' computer training course in the school during evenings on a weekly basis, prior to our inclusion in SIP. This proved to be successful and popular. It was met with great enthusiasm from our parents and wider community members. However, it became very difficult to organise these lessons in a practical sense, because we (the teachers) had to move all seven computers from each classroom around the school and to locate them in one classroom every Tuesday evening. It was troublesome work physically and proved to be quite a stress. However, it sowed the seed of interest in technology in our community, even though the members of the wider community did not have access to technology themselves at home.

The Problem

In his article Berenfeld (1997: 14) questions if bringing schools into the infosphere can justify the great effort that doing so will take. I myself have questioned similarly. While I have included such projects in my own normal curriculum for some years, and enjoyed the process involved in developing the projects thoroughly, I began to question their value. I queried why I felt I should include them in my workload and what, if any impact they had on my class. I also wondered if they could have wider impact.

The Schools of the Future Web (Sofweb 2001) article suggests that prior to participating in ICPs that the following criteria ought to be addressed: Is the project built on a successful curriculum model? Is there a clearly defined purpose of the project and its various components? Are there clear outcomes from being involved in the project? Are there definite time-lines for the different components of the project? Are there different levels of commitment and entry into the project? Can you meet the technology requirements for the project?

While these are very valid criteria, I feel that they do not fully address my own sense of dissatisfaction with my practice. They did not unearth the basic key questions about the use of technology in education and what is its value. I read with interest an article by Laurie B. Dias entitled 'Integrating Technology' (Dias 1999: 11) where she maintains that technology is integrated when it is 'used in a seamless manner to support and extend curriculum objectives and engage the children in meaningful learning.' She continues with the notion that our primary aim as educators is not to use the technology for the its own sake, more to engage students

in meaningful learning. The technology should enrich the learning. The importance of setting ICPs firmly in the school curriculum must not be underestimated, nor must the value therefore of their integration.

This type of thinking is key to the use or misuse of technology in education. In my own practice I felt a sense of unease about whether I was using technology to enhance the children's learning or was the technology pushing the way for me and my students. I read with interest Wang's article in *Tech Trends* (Wang 1999) where she posed a similar question with regard to multimedia projects. She wondered if her pupils' work lacked depth of content, if any knowledge was being generated by her multimedia projects, or was her work being overcome by the use of technology. I asked myself similar questions with regard to Internet based Collaborative Projects.

I found myself puzzling over issues such as 'the information superhighway' and its worth or indeed its relevance. I wondered if this information was so valuable and desirable? I queried if my work was relevant to the needs of my class and indeed to the dictates of my curriculum?

I was also motivated by a desire to keep my students on the 'right' side of the 'digital-divide'. While much current writing (Berenfeld 1996; Pinhey 1998; Cummins and Sayers 1997) points to the fact that the Internet may provide the currency of knowledge of the future, I wondered if my work, in my classroom actually would help keep the students from sliding into a digital abyss, or indeed if they did, would it be of any importance? Gibson (1993), the American who first coined the word 'cyberspace' suggests the provision of free Internet access to public schools in the United States 'may well represent nothing less than this nation's last and best hope of providing something like a level socio-economic playing field.' While all schools in Ireland have one hour's free Internet access every day, we must wonder is this enough? We must ask if the power relations that determine the distribution of status and resources in society have the same influence in education.

My co-workers and I decided that more funding was needed to overcome our practical problems. More computers were needed, more Internet access was needed, some facility whereby parents could gain access to computers was needed. Our wishes seemed to come true by our inclusion in the Schools Integrated Project (SIPs). With the funding that SIP provided, we bought nine computers, and linked all computers in the schools via an ISDN line and networked system to the Internet and I became the co-ordinator of SIP project 062. However, though we were delighted with the funding, and we found that many of our problems were alleviated, we also found that many of the same problems still existed, as I explain in Chapter 6.

Chapter 2: Context of my work.

I am a primary school teacher, co-ordinator of SIP 062 and have been teaching for nineteen years now.

While I am an 'ordinary' teacher, I have a keen interest in computers; Internet based projects in particular, and their implementation into the curriculum and community. This interest is nurtured by the location of my workplace.

My school is located in a beautiful rural coastal townland where the pupils can walk to school in safety and where the salty tang of the sea is always on one's lips. They pass by small fields of boggy land where a few sheep might provide a meagre income for their families. They also pass the stacks of turf (fuel) which have been saved to provide fuel for winter. This is an area where high unemployment poses a serious problem for most families. The issue of unemployment is further compounded by geographic isolation. Travel and access to 'urban riches' such as book shops, theatres, galleries and cinemas are very difficult for us as the nearest train station or book shop is an hour away. Many children never get the opportunity to visit an art gallery, hear a concert or see some theatre. Even the very process of having an x-ray involves a drive of over an hour, if one is lucky enough to own a car.

The place of computers and Internet access can be emancipating in such circumstances. Even though currently in our school, only one family has access to the Internet at home, we aim to redress the imbalance at school. If a student can virtually visit the Louvre using the Internet, or browse through the Book of Kells from the safety and comfort of their classroom, then the issues of distance and socio-economic disadvantage begin to recede. Clearly, browsing the Internet will never replace the real experience, but it may provide the pupils with a real learning experience. In my own case, I can remember the sense of satisfaction I had some years ago when my class of seven and eight year olds crowded around our class computer and we located the Louvre web site for the first time. We finally located the painting of the Mona Lisa and printed it out. I imagine my sense of achievement must have been akin to da Vinci's on completion of his masterpiece.

Berenfeld (1997:20) comments: 'Ironically, schooling, which is said to prepare students for life in the real world, is tremendously isolated. Learning is compartmentalised behind closed doors.' Nowhere is this more true than an Irish primary classroom where (generally) one teacher spends the full day with one class. Using telecommunications to bring the real world into the classroom may help to circumvent this isolation.

The other teachers and myself created a school web site some years ago using children's classwork as its main source. This began a series of outreaching from the school to the wider global audience, who in turn,

communicated their feedback and opinions to us. No longer are we lone practitioners, we are co-workers with many others.

The spin-off from our experiences with our web page was that we began to explore the world of Internet based collaborative projects and to include our families in explorations, as best we could.

Since our school's inclusion in the Schools Integrated Projects (SIPs) we received funding from the National Centre for Technology in Education (NCTE) for nine new computers and Internet access from all computers in the school. Our local community, as a result of this initiative, voluntarily converted a disused building on the school grounds into a small cosy computer room which houses our nine new computers.

However, many of the same issues with regard to the 'information superhighway' and its relevance, and inequality in society, and our socio-economic disadvantage were still prevalent. Nine computers with Internet access cannot transcend such huge barricades as those I have discussed previously.

Chapter 3: Method of enquiry:

I chose to use action research as my research method. My choice of action research is for me a natural choice because, as its title implies, it is a type of research that presumes that an action will take place and because it is practitioner based. It involves a reflection on one's practice, a plan of action to improve one's practice, the implementation of that plan and then reflection on how the action worked. It also involves communications with others so that one's action is informed and committed. This is praxis, as opposed to practice and gives rise to knowledge (McNiff et al. 1996: 8). It also gives rise to more reflection and action and suggests the sharing outcomes of this research.

Issues such as equality, both socially and educationally are fundamental to me and these values underpin my beliefs as a teacher and SIP co-ordinator. I am committed to improving my practice, and this is a continuous ongoing process. I had a sense of dissatisfaction with my practice in using Internet based Collaborative Projects and promoting technology in a way that was not quite in keeping with my values and beliefs. There was an apparent conflict between my thinking and my action. What were my motives in my enthusiasm for ICPs? Is or will the Internet really be such a source of knowledge as contemporary literature suggests? This sense of conflict within myself, this questioning what is 'given' is described by Jack Whitehead (1993) as experiencing oneself as a living contradiction.

Action research falls into a subcategory of the critical theory paradigm and I have chosen the living theory approach (as described by Whitehead, 1993) as my interpretation of action research. The ontology of action research allows me to study my educational practice in the locus of my classroom, which has been moulded, by rural social practices, by economically disadvantaged inhabitants and by geographic isolation. Living theory is one approach to Action Research which explains what someone is doing in terms of an evaluation of past practice and an intention to create something in the world which is not yet existing. In the Living Theory approach, 'the teacher-researcher asks, "How do I improve what I am doing?" in the context of helping their student to improve their learning.' (Whitehead 1999:5). The researcher sees a contradiction between their values and their own practice at work. In the attempt to improve practice, teacher/researchers undertake cycles of reflection and action. They create an action plan which will 'enable them live the values more fully, they act and gather data to enable them to make a judgement on their effectiveness, they evaluate their actions in relation to their values, skills and understandings' (ibid.). When these accounts are proffered for public evaluation, they strengthen and inform educational bodies of knowledge.

Epistemology according to Guba and Lincoln (1994), is the relationship between the knower (or would-be knower) and what is to be known. The epistemology in Critical Theory is intertwined with the ontology. The values of the investigator influence the enquiry. Findings are therefore value mediated. 'Your explanation of your practice as educational practice can be based on, and is comprehensible, in terms of values.' (McNiff et al. 1996:128/9). Values are simply the beliefs that give meaning and purpose to life. The epistemology of action research is rooted in practice. Action research aims to explain the improvement one is trying to implement by reducing the gap between one's values and one's practice. The epistemology of Action research is based in our educational practice.

In my research, I investigated the problems I had with my beliefs in equality and my practice, which I felt was a little without foundation.

Action Research is suitable for my research as SIP co-ordinator, where I am the researcher. As Cohen and Manion (1997:192) point out, 'A feature which makes Action Research very suitable for work in classrooms and schools (as well as other field settings) is its flexibility and adaptability'. Action research takes the unpredictability of the school week into account, and allows for its variations and tempos. It does not presume an outcome as quantitative methods might; the outcome unfolds as the action and research progress.

A quantitative type of research was unsuitable for the purpose of this report because as it would reduce the social landscape into variables, which can be measured and quantified. Propositional logic would dictate that human behaviour cannot be understood without reference to meanings and purposes attached to their activities. (Guba and Lincoln 1994). Researchers using quantitative methods must use a 'stripped context'. (Guba and Lincoln 1994). Certain variables must be discarded from the research consideration, so that they won't influence the focus of the research findings. This reduces the area of research to a laboratory setting, where variables are controlled. This 'stripped context' is a huge problem for the educational researcher, as it does not allow for the influence of the natural environment or the context of the research. Neither does it allow for human emotions or unpredictable daily routines. My work with technology is highly influenced by the context of my work and so I *had* to investigate my practice with a method that included the context of my work.

The qualitative paradigms of research were not suitable in my work because I chose to research myself, my practice and how I was going to improve it. Qualitative research presumes that one is an observer (albeit a sympathetic observer) and the research 'describes people acting in events' (Firestone 1987:19). It also uses

rich description persuading the reader 'that the researcher was immersed in the setting and giving the reader enough detail to "make sense" of the situation' (ibid. p.16). The qualitative researcher appears to assume supernatural insights into the thoughts and feelings of the actors in the research and then presupposes the right to report on their findings. No-one can have such insight into another person or groups of people. A researcher can only honestly report on herself, her thoughts and reactions in any given situation. Qualitative research describes reality from an outsider's viewpoint which can never experience or know reality as it truly is. It would be impossible for an outsider to come into our school and write up a report on how our SIP project influenced our work. In my opinion a qualitative report tends to be merely descriptive, with little explanation involved in it. Again, this could not give a true insight into my work and our SIP project, because the story of our SIP project by its very nature, is cyclical, involving action, reflection and explanation. Furthermore, when one has completed the first spiral of reflection and action, another problem appears rather like Hydra (McNiff 1993:35). It shows a movement towards (hopefully) improved practice.

The Plan

I identified that there was a problem with regard to my work as SIP co-ordinator. I questioned whether the children were learning from their Internet based Collaborative Projects, were the projects of value, or indeed why bother with them in the first place. Issues such as equality of access for everyone to technology also concerned me. The management of how to include parents and the community in work was also posing a problem for me.

I did research on my work with my own classes and on parents who wanted to be involved with our technology programme. Initially I focused on my own class work, and after that initial cycle I focused on parental involvement in combination with my class work.

I collected data using eight different strategies:

- 1) I continuously scribbled notes in a notebook during my regular school day.
- 2) I used Circle Times to focus the children's minds on our work, and how they felt the project was working. I took notes and videotaped these weekly sessions.
- 3) I used informal, open-ended interviews with the parents of my children.
- 4) I collected the e-mails and communications (drawings and notes) that my class wrote during the projects.
- 5) I videotaped the children while working on projects.
- 6) I used the e-mail the pupils exchanged and their project work as data also.
- 7) I used the messages sent to the Learning Circle Newsgroup as data also.

8) I interviewed the parents informally.

Each day I reflected on the data collected that day. At the end of each week, I sorted the data and made notes of it and tried to classify it. I made a list of success criteria, indicators that would point towards an improvement in my practice. The criteria included the following:

- Pupils would develop natural interest in the wider world, world events and trends.
- They would learn about others in a manner whereby people do not judge 'others' exclusively by their own cultural norms. (from Fisher and Hicks 1992)
- The children would become familiar with some aspects of the live of people in Ireland and other areas (communities, food, shelter, clothes, play, songs, customs, environments, building materials).
- Pupils would be able to identify land and sea on maps and globes. (Geography for First and Second Class in the Primary School Curriculum 1999)
- The project would be built on a successful curriculum model.
- The project would demonstrate a clearly defined purpose. (Sofweb 2001)
- The ICPs take place in an active, collaborative, conversational, contextualised and reflective environment.
- Pupils would show natural curiosity and eagerness to learn.
- They would love of a challenge
- Their focus would be on the present.
- The pupils would show acceptance of failure as opportunity for learning and a tolerance of criticism.

(Humphreys 1996)

- The project would bring real-relevance into the classroom
- It would bolster social, communication and critical thinking skills.
- It would put a human face on learning.
- It would increase the authenticity of the learning environment.
- The project would demonstrate traits of social equity.

(Berenfeld 1996)

- Parents and community members would use the computers in our school.

Ethics

Throughout my research I wanted to safeguard the anonymity of my pupils their parents and my fellow workers. I also wanted them to be aware of the process of action research while it was ongoing and the

notion that a report would be written after some months. I wrote to the Board of Management of the school, and sought and obtained their permission to do the research. I also wrote to the parents of the pupils I was teaching and I also sought permission from the parents involved in the parents' programme. (Copies in appendices). In the letters I explained the work that I was undertaking, my data collection methods and I gave an undertaking that I would not reveal the name of the school, parents or children in the report, and I changed all names used in this report. I undertook to have the report available at the school for scrutiny and to keep everyone informed throughout the process. I also explained that if anyone wished to withdraw from the research at any time that they could also do so.

Chapter 4: The Project

Area of investigation

As outlined in Chapter One, the focus of our SIP project was 1) the use of the Internet and Internet based projects and 2) the inclusion of parents and members of the community in our IT initiatives. I chose this focus because of our geographical location, because of our socio-economic disadvantage and from a desire for equal opportunity for all.

My Concern

I had worked with Internet based projects for three years and found them to be enjoyable as well as educational. I had also wanted to include parents in this work and had begun to do so. However, I had to ask what was the driving force for all this work. Was it merely an interest in technology that motivated me? I had to ask myself if the technology was driving me (and my pupils and their families) or was I using the technology to enhance the learning in my classroom? Was it enhancing the learning? Did parents need to be involved? Were they as well off at home, with no computer access? If a worthwhile learning situation was not happening in my class, why bother pursue this project?

Evidence to show my practice needed improvement

I sought evidence and found that indeed my areas of concern warranted investigation. This is what I have called Evidence 1.

Having established an earlier ICP (a partnership with a school in Texas) I found that there was very little or often no e-mail communications from our partner school. This was due to a technical failure and to time pressures on my partner teacher in t. As a result, the children in my class found that they were getting no response to their messages. When I ran a casual quiz to establish what they had learned about the partner country, I found that they didn't know if the 'other' children lived in a rural or urban setting. They didn't know what method of transport they used to get to school. They wondered if the children in the United States played Gaelic football and if they had kangaroos in their back gardens. Katie asked if they might have dinosaurs in their gardens. (These were children aged six to eight.) Tom said "The boys all wear dickie-bows and shiny shoes."

Far from enhancing the children's personal development, I found that doing ICP, where communications were slow, made the children feel disappointed. They used words like 'upsetting', 'awful' and 'disappointing'

to describe their feelings on the state of the beginning of their ICP. As David commented: "How can we learn about Texas if they don't write to us? All we learned about was ink-wells!" (He meant oil wells.)

In my effort to generate valid evidence, I had to ask myself, if my work so ineffectual in my room, why invite parents in to share the experience?

This was the evidence I needed to demonstrate that my practice needed improving. I reflected on my practice, my areas of concern and read widely on ICPs.

What could I do?

I decided to think deeply and reflectively about my work and to share my thoughts with colleagues. I also decided to read widely on the impact of ICPs on the quality of the children's learning and indeed about the 'digital divide' and the inclusion of parents in everyday school projects. I decided to observe my class carefully and to look for evidence to show whether ICPs were of any educational benefit to them. I also decided to talk to the parents and ask them what they felt about being included in such school based activities.

What I did

Initially I read much literature on the effects of using ICPs in the classroom. Margaret Riel's writing influenced my thinking processes greatly. She believes that it is the human interaction that occurs in learning situations on the Internet that create the magic of ICPs. Riel (1999) asks us to see past the widely acclaimed information resources of the Internet and to visualise the Internet instead as a social place where people can share knowledge through teaching and learning and to form communities around common practices. She comments that the integration of technology into our education curriculum is very different to reading a text or watching a video. Internet integration makes it possible to create a sense of shared place with the potential for different forms of social exchange. She proposes that the interaction within these settings create a type of community wherein the learning that takes place is 'real'. She considers that the 'workbook' type writing that students spend many school hours at is worthless and meaningless. When children write in an authentic situation, (as in Internet based collaborative projects), when they write to and about real people, their learning is enhanced. With such insight into my projects I began my schedule as follows:

January 2000 -April 2000: Learning Circle ICPs with class (SIP begins here)

May 2000- June 2000: Parents computer skills course with Muintearas

September 2000- December 2000: Online expedition ICP with pupils

Parents' Computer Skills Course

January 2001-April 2001:

Cyberfair 2001 Project (ICP) with pupils and parents.

Parents on-their-own nights.

Learning Circles

Our first undertaking as a SIP school was a Learning Circle Project. Six other schools took part with us initially. Learning Circles are collaborative projects which are the brainchild of Margaret Riel, and are supported at the International Educational and Resource Network web site (I*EARN) at www.iearn.org. The theme in which my class collaborated was called 'Places and Perspectives', which involves a sharing of local geography, history and legends. The circle usually involves between six and eight schools and each school may sponsor a project. Most messages and insights are posted at the Learning Circle Newsgroup. Each school must submit some work for each project, and then publish their own project. Our sponsored project was called 'Local Landscapes' and required photographic and text descriptions of the local region of the school as the input. The children took home digital cameras (which were on loan) and took some wonderful photographs. We shared our work with schools in Australia, Texas, Chicago and Florida. We chose to contribute material that was relevant to the age of the class and their cognitive development for each of these projects.

Online Expeditions

The details of Online Expeditions may be found at <http://www.gsn.org/expeditions>. Our project involved following a lone seaman rowing around the world. Each day he updated his web site and told of his latest location and adventures. The pupils checked his site regularly and sent him e-mail messages, questioning his feelings and reactions. He replied promptly. The children did much project work around this experience and there was much excitement when he managed to use his satellite phone to actually phone the children in the classroom and answer their questions.

Cyberfair 2001

Cyberfair 2001 is a collaborative worldwide project with a slightly competitive element that involves each class presenting an environment-based project as a web site. As each class completes its entry, it then gets the opportunity to explore the other projects, to evaluate them according to the Cyberfair rubric and to send messages to the other participants.

Parental Involvement:

Before our community completed work on the restoration of the computer room, Muintearas (a body involved in the promotion of education through the Irish language) offered their 'techno-van' for two weeks of intensive computer skills training for the community. They came with a lorry load of computers and employed their own trainers. There was high attendance at these evenings.

Once our computer room was ready, a six-week course on basic and more advanced computer skills was run in the school in autumn. Again this was well attended. The more recent stages in this collaboration has now been reached when the parents and wider community have taken responsibility for their own training. They have elected a 'manager' who ensures the smooth running of the room, and they have access to the computers twice a week for three hours. They use the time to practise the skills they have already acquired and use the training manuals and their shared knowledge to update them.

The Impact of my Involvement in SIP:

The evidence that I collated pointed to the fact that ICPs made the learning more 'real' for the students. Writing to and for real people made the exercise very worthwhile for the pupils. I also found that the children gained self-confidence and they were enthusiastic about their work. The pupils seemed to have gained higher self-esteem. The children began to show signs of being easily motivated also. They often pleaded for a 'go' at writing their e-mail, or writing up their Learning Circle project. They would never before have pleaded for an opportunity to hand-write their news, or stories. Norah, whose handwriting would not be as neat as her friend Susie's, commented to me (11/01/00) that she loved writing on the computer, because it always came out neatly. She also commented on 27/03/00: 'It's so easy to write an e-mail, you just have to click on "Save" and it's there for when you want to come back to it.

Parents and members of the wider community began to become involved in their children's projects, and began to enquire about training for themselves.

Interestingly, I found evidence to show that my own role in the SIP project was of key importance. For example, when ICPs were not progressing well, it was my own intervention that kept the project afloat. Had I chosen not to intervene, that particular project would have died. The project was in trouble because of lack of response from our partner school. The children had e-mailed the children in Texas, and I had tried to contact the teacher. We had had no response. I began to look up encyclopedia for information about Texas myself, to give to the children, when I stopped myself, and asked if this was in keeping with the spirit of ICPs. Surely the learning in ICPs was meant to come through the communications? I read widely to find

some solution to my problem. Rogers, Andres et al. (1990) advise that while mastering the technical side of ICPs is a major hurdle, it the human elements of this social project that are undependable and even temperamental. I also found practical advice as suggested by Margaret Riel (1999). She suggested in a newsletter to Learning Circle Participants the following:

'You and your students are working together in a complex team which extends across great distances. Sometimes one or more members of your Circle will not be able to complete their work. This can provide a valuable learning lesson for your students. What will they do when they have jobs that depend on the work of others and a member of the team drops out or is unable to complete their work. What are the range of possible strategies and the reasons for selecting one strategy over another?..Remember that how you handle any surprises and or disappointments can provide a valuable lesson for your students.'

I took this as a blinding flash of inspiration, and used it immediately. I decided that the best course of action was to ask the children for their views. The children and myself had a class chat about how we ought to cope with the lack of response from our Texan partners. They refused to be daunted by the lack of response, and suggested that we go on a trip to Texas to visit the class. I explained that such a field trip might prove to be a little expensive. Then Angela suggested: 'Why don't we look up stuff about Texas and armadillos in the encyclopaedia and on the Internet?' This suggestion was well received by the class, and we acted on it immediately. We searched for and located information that was relevant to the children, we printed it out, read it and talked about it. It helped to keep the project alive until our partners did finally respond to us.

Conclusion I drew from the Evidence:

1) Real and Relevant Learning

I found that a conversation using e-mail can be a highly educational and effective method of learning and that the addition of a sound/picture attachment to e-mail enhanced its value for the class. As Angela (a confident reader) commented 16/11/99: 'It's a shame they don't send us pictures, then we'd really know what Texas is like.' And Adam agreed with this view on the 7/12/99 when he said 'We should send the children in Texas some photographs of here.' Children love to e-mail other children, and this provides a fertile learning experience for them.

The use of software such as Clicker Plus to write, Hyperstudio or PowerPoint to read projects injects a sense of ease and accessibility to ICPs, especially for the younger learner. I used PowerPoint or Hyperstudio to present some of the younger children's projects, and when they 'played' with it, they whispered excitedly and gave admiring glances to composers of each presentation as they browsed through it. (See Appendix 1.)

Doing video-conference sessions must surely be nearly as good as an actual visit to another class. As Adam commented (07/02/00) (after a video-conference session where we finally talked to our colleagues in Texas, but could not receive their video images). 'It was great to meet the children in Texas for real. It was a pity we couldn't see them, but they talked funny!' The inclusion of videoconference in my ICP showed an improvement in my practice, because it made the learning experience very real for the children. A more recent video-conference session with children in the United States revealed that they had stayed in school all night so as to be able to conference all around the world. My class commented that they found it amazing that they could see and hear children who were so far away. Adam wrote: " At the computer there was Kevin, Christina, Tommy, Kelly and me. We were talking to them for about half an hour. In Mayo we about five hours ahead of Florida time. They said they stayed over night in the school. Most of them were aged seven to ten and we could see a few teachers in the background. We had a great time talking to them and we hope to talk to them again."

The choosing of the content and the preparation of the welcome packs gave the children the feeling that they were sharing their project with 'real' children. This exchange of gifts between classes caused much excitement, and gave much scope for discussion and further exploration. It was a new and positive dimension to ICPs.

2) Children's Personal Development

I introduced Show and Tell sessions so that the children would have an opportunity to present their projects to the class and answer any questions on them. In so doing, the children showed signs of gaining confidence when speaking to an audience, using a clear voice maintaining eye contact. They also felt confident about their ability to write and communicate using e-mail. Norah said: 'It's so easy to write an e-mail, you just have to click on "Save" and it's there for when you want to come back to it.' The children began to show signs of being easily motivated also. They often pleaded for a 'go' at writing their e-mail, or writing up their Learning Circle project. They would never before have pleaded for an opportunity to hand-write their news, or stories. Norah, whose handwriting would not be as neat as her friend Susie's, also commented to me that she loved writing on the computer, because it always came out neatly

Lack of response is a very common occurrence in ICPs and my classes and I met with it to a certain extent in all our projects. Children found this very frustrating and upsetting. I would present this lack of response from our partner schools as evidence that some aspects of ICP can lower self-esteem, despite my attempt at improvement in practice.

The children were particularly fond of listening to their own voice-overs on some of their project work. The fact that they were 'allowed' to bring digital cameras home with them made them feel very proud and important. There was a certain discernible straightening of the shoulders and a tilt to the chin as the children took their turn to bring the cameras home.

3) Bringing about a little improvement in socio-economic disadvantage.

I found the following to be happening: parents and grandparents were becoming involved in the children's ICPs and helping with them. The parents were becoming thirsty to learn about the children's ICPs and to acquire computer skills of their own. They gave freely of their time and skills to convert an old building into our new computer room. However, it was becoming evident that parents were beginning to integrate technology into their own lives. One day, Kate's mother, Mary, called me aside and asked me to see Kate's project work for the Landscapes section of the Learning Circles project. I had forgotten to give her a copy. She explained that her own mother (Kate's grandmother) had spent days preparing to make butter, so that when Kate took the camera home for her section of the project, she would be able to take photographs of the churning of the butter. I apologised for my oversight, gave her a copy of Kate's work and paused for thought.

Never before had any parent asked me for a copy of any work a child had done. This was the first time this had happened. I was delighted that Kate's mother and grandmother had been so interested in her ICPs, and that Kate's mother had felt comfortable and motivated enough to ask me for the copy. This was surely evidence that my practice in ICPs was improving, and that ICPs can help to break down the barriers between parents and school and between culture and technology. When I presented this to my validation group they supported my claims.

When our computer room was completed, I gave an introductory course on basic computer skills to our parents and community members. This was met with great enthusiasm and when it was over I asked them what could we do to generate more good practice. Many wanted to learn skills to help their children, some wanted to enter the workforce themselves and some just enjoyed the experience. We had no funding to employ a computer skills trainer for further training and the community couldn't afford to pay for one either. We decided to organise collaborative nights, where one person was in charge of the computer room, and interested parties could use the room to upgrade their skills, to browse the Internet and help one another with their own skills training. Currently, this initiative is in its embryonic stages but indications are that those involved are happy to have charge of their own learning.

I found evidence on numerous occasions that the ICPs were helping the children to reach out to the world outside of the classroom. Susie commented on 26/01/00: 'In Learning Circles we get to know things about the world'. Ann Marie's comment was 'It's good to tell other children what films we watch. Then we can compare the things we are interested in with what they are interested in.' These and more comments besides that I have kept in my data bank, mount up to a very convincing statement that ICPs help to overcome geographical and educational disadvantage.

In our CyberFair project, the pupils had to present collaborative projects as web pages. Nearly all of the pupils were enthusiastic about writing for a global audience. They put extra effort into their writing, editing it on numerous occasions. They knew they were reaching out and I knew they were breaking down those school based barriers (Berenfeld 1997). (See Appendix 2 for a CD-ROM which contains most of this work)

4) Myself

I found indications that my own intervention and interpretation was a pivotal aspect of the ICPs. When communications were going poorly and we were awaiting replies from our partners, I had to invent coping strategies. I also had to modify some of the project work we did so that it would be suitable for the abilities of the children and their curriculum. Parental involvement in our ICPs was also dependent on my intervention.

It was also interesting to note that ICPs were influencing me in my classroom organisation also as I unconsciously began to employ a collaborative/project style of teaching.

Validation:

Throughout my period of research, I sought to gather data from many sources and to find ways of triangulating my evidence. Having analysed my work and reflected on it, I drew up findings based on my criteria as mentioned in Chapter 3. I had a good supportive validation group for the duration of my research. It consisted of two other teachers, two of my fellow M.Ed students and my tutor. I then shared my findings with my critical friend and my validation group. When the group had agreed with me that my findings were true, I then presented them as evidence that an improvement had come to my practice.

Chapter 5: Significance

Personal Significance:

I found that my research only began to scratch at the surface of the questions that I had asked in Chapter 1. I checked and found that my work with ICPs were firmly rooted in the curriculum. I continuously 'tweaked' them so that they were within the structures of our revised curriculum (Government of Ireland 1999). With regard to my questions about the generation of knowledge by ICPs, I floundered. One would need to define knowledge itself first and that question can be asked in another research session. (This was one of Hydra's heads!) This was complex, because one would need to assess what was meant by the word 'knowledge', before embarking on the research. However, I was happy that the process of doing ICPs was highly educational in itself and fed into areas of relevant learning and personal development. I cannot predict what the importance of the Internet will be for learning, knowledge and education but I can say that right now I am happy with the quality of the work I am doing using ICPs and involving parents.

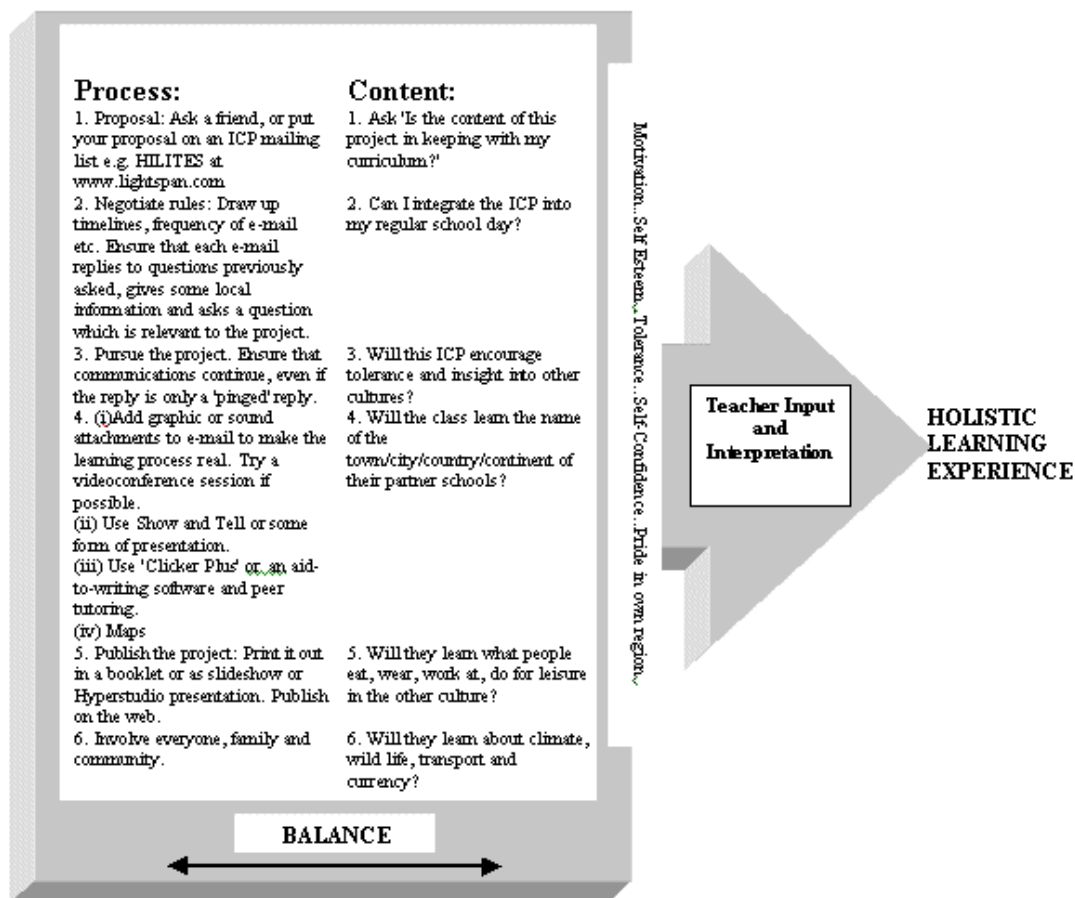
Significance for my Institution.

On an institutional level, this action research project has improved home/school relationships. Throughout the project, I was dependent on my class' parents to help the children in their work, and to provide feedback to me. As a result, they were frequent visitors to the school, and I believe that they became more comfortable in the school situation. The sense of goodwill that has been promoted between the community and the school has been invaluable. This goodwill will provide our school with a solid foundation of partnership that will reap many educational benefits in the future. Currently, we are working with our parents in evaluating CyberFair projects and we are also working with our community in their collaborative learning sessions in our computer room.

Educational Significance.

On an educational level, I have engaged with my practice and have generated a practical theory, which may be of benefit to other educators. I have generated a new epistemology, which is rooted in my practice. My individual epistemology of practice, once it enters the public domain, will contribute to a new epistemology of practice. To facilitate the sharing of this practical theory I have drawn it as a model below.

FRAMEWORK MODEL FOR Internet based Collaborative Projects (ICPs):



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