



**Using information and communications technologies
in a teacher education internship.**

Dr Diane Mayer

Graduate School of Education

The University of Queensland

Brisbane Q 4072

AUSTRALIA

Telephone: +61 7 33656494

Fax: +61 7 33657199

diane.mayer@mailbox.uq.edu.au

**Paper presented at the Australian Association of Research in Education (AARE)
Annual Conference, University of Sydney, 4-7 December 2000.**

Abstract:

Traditional practicum experiences in preservice teacher education are often characterised by disconnection. Preservice teachers are disconnected from university faculty and coursework, as well as from their peers. The university-based supervisor attempts to bridge the two contexts of preservice teacher education (schools and universities) and facilitate the learning to teach processes of preservice teachers. Traditionally they have done this during visits to schools while preservice teachers are completing practicum experiences, a situation which places high importance on the value of face to face communication. This is becoming increasingly difficult to maintain amidst the prevailing climate of fiscal restraint.

It is within this context that this paper explores the possibilities of using information and communications technologies (ICT) in the practicum component of preservice teacher education. It draws on research which investigated the use of electronic bulletin board discussion groups by preservice teachers and university lecturers while the preservice teachers were completing an internship towards the end of their teacher preparation program. The paper discusses the benefits and challenges as reported by the participants in interviews, draws on the actual text of the electronic communication, and analyses the findings in relation to the current literature on supervision in the practicum and facilitating learning to teach in preservice teacher education.

Introduction

The practicum is regularly reported by preservice teachers as the most important and valuable part of their teacher preparation programs; it is where they learn to teach . However, in traditional practicum experiences, preservice teachers are often isolated from any type of continuous communication with university lecturers and other preservice teachers, and construct their professional selves in relative isolation of the on-campus components of their programs . Usually, university staff attempt to bridge the school and university contexts of preservice teacher education and to facilitate learning to teach by developing and promoting reflective practice via some type of 'supervision'. Traditionally this has been done by the university supervisor visiting the preservice teachers in schools, meeting with them and their school based supervisors, and observing lessons and giving feedback. Such an approach depends on close physical proximity and places high importance on the value of face to face communication. Tradition and anecdotal affirmations of the value of such face to face visits (often irregularly spaced and few in number) are often offered as the justification for continuing with them.

This arrangement is becoming increasingly difficult to maintain amidst the prevailing climate of fiscal restraint. The current context of higher education in Australia is characterised by reduction in government funding, strong competition amongst universities for students, and high staff-student ratios within many university programs. Within this context, new information and communications technologies (ICT) are, for some, a panacea. ICT is being used in the delivery of coursework components of preservice teacher education courses including hypermedia (CD-ROM), and interactive, adaptive and discursive media , often within a flexible delivery format using software packages such as WebCT. The use of ICT in the field based components of teacher education programs is also growing . Electronic communication is being used within teacher education programs as a way of student teachers maintaining contact with their university tutors and with each other while they are completing practicum experiences . Research into the use of ICT in teacher education is also beginning. Some focusses on conferencing and the use of electronic mail to promote

critical reflection and communicating . Others highlight the need to focus on technology infrastructure, staff development and training, and technical support and backup .

It seems that successful use of information technology in schools is dependent upon the depth of experience with technology that the preservice teacher gains as part of their university course and whether they are placed with a supervising teacher who uses information technology in her/his classroom . In many countries there are requirements that beginning teachers possess amongst their qualifications the ability to utilise computer-based technologies. For example, in the United Kingdom all graduates from teacher preparation programs are assessed on their knowledge of and practice in the pedagogic use of information technologies in their teaching . In the United States, the National Council for the Accreditation of Teacher Education (NCATE) has developed guidelines for preservice teachers' development of basic computer/ technology literacy. In Australia, the Australian Council of Deans of Education highlighted the need for graduates from teacher preparation programs to have an understanding of and ability to use information technology to facilitate learning, to assist with administrative tasks such as record keeping, and to interact with professional colleagues . In Queensland, the Board of Teacher Registration, the registering body for all teachers in that state, also stresses the need for graduates of teacher preparation programs to have these skills . However, in their review of the literature on information technology and teacher education, Willis and Mehlinger conclude that preservice teacher education is generally not preparing teachers to work in a technology rich environment.

The research reported in this paper sought to explore the possibilities of using information and communications technologies (ICT) in the practicum component of preservice teacher education. It draws on research conducted at an Australian university which investigated the use of electronic bulletin board discussion groups by preservice teachers and university lecturers while the preservice teachers were completing an internship towards the end of their teacher preparation program. The paper discusses the benefits and challenges as reported by the participants in interviews, draws on the actual text of the electronic communication, and analyses the findings in relation to the current literature on supervision in the practicum and facilitating learning to teach in preservice teacher education.

The research

The participants in the study are secondary preservice teachers completing the final practicum experience, a 10-week internship, of their 4-semester graduate entry secondary teacher preparation program. During the internship, the preservice teacher takes a 50% teaching load as a beginning teacher, while the usual classroom teacher becomes his or her mentor and is not required to be in the classroom with the intern (as they would in a supervised practicum). Since the interns have completed 80 days of supervised practicum, they are given authorisation to teach by the Queensland Board of Teacher Registration. The majority of the preservice teachers complete their internships within one or two hours drive of the university, however an increasing number are completing it in rural and remote schools throughout Queensland. During the internship, the preservice teacher is assigned a university adviser who provides the link between schools and university, and is responsible for ensuring the smooth progression of the internship.

During 2000, 87 preservice teachers completed a 10-week internship from late January to early May. These preservice teachers had previously completed university courses using WebCT, an Internet course delivery software package. This environment provides email and bulletin board (electronic discussion groups) facilities. A WebCT site was set up for the internship and included copies of relevant documentation, email and a bulletin board discussion group. It was intended to create a virtual community of learners who would share

experiences, thoughts, issues and concerns with each other and with their university lecturers on a continual basis during the 10 weeks of the internship. The interns were required to email their adviser as a check-in during weeks 3, 6 and 9, and to post at least 5 messages on the bulletin board over the 10 weeks. It should be noted though, that even though this was outlined as a requirement, it was not part of the assessment and therefore failure to fulfill these requirements did not prevent the interns successfully completing their internship. Access to the site was password protected and restricted to interns and university advisers.

Within the bulletin board environment a number of forums or discussion sub-groups were established with students being given access to four forums:

- a main forum for general messages and discussions;
- a university adviser forum where all preservice teachers of the one adviser could interact with each other and the adviser; and,
- two teaching subject area forums.

In all there were 28 forums including the main forum: 16 university adviser forums and 11 teaching subject areas. These teaching subject forums often comprised clusters of teaching subjects; for example, all science teaching areas - biology, physics, chemistry, multi-strand science etc - were covered in one science forum. The numbers of preservice teachers in the university adviser forums ranged from 2 to 12; the numbers in the teaching subject areas ranged from 2 (ESL) to 24 (Social Education), 25 (Business Education) and 33 (Science). In total, 31 university staff had access to the site: 16 as advisers and 18 curriculum lecturers (including full time and part time staff) - 3 staff were curriculum lecturers and also took on the role of adviser for a group. Discussion threads were started by me in the main forum (as moderator of the site), by the university advisers in each of their forums, by the curriculum lecturers in each of their teaching subject area forums, and by the preservice teachers themselves in any of the forums to which they had access.

Throughout the 10 weeks of the internship, a total of 717 messages were posted. The numbers of messages posted in the university adviser forums ranged from 1 or 2 for 6 of the 16 forums (usually these were introductory messages from the adviser) to 32 in a group with 9 preservice teacher members and 43 in a group with 12 preservice teacher members. The numbers of messages posted in the teaching subject area forums ranged from 0 in 2 forums to 31 in English and 44 in Science. A total of 454 messages were posted on the main forum; this was clearly the most preferred way of posting messages for the preservice teachers.

At the conclusion of the internship, interns were invited to be interviewed to discuss their use and perceptions of the technology. The following questions guided the interviews with the subsequent 11 volunteers. The interviews were audiotaped and then transcribed ready for analysis.

- Tell me about your experiences using ICT in the internship. What did you do? What helped? What hindered? What could have made it better?
- What do you think about using email as a form of communication in the internship?
- What do you think about using bulletin boards as a form of communication in the internship?
- What do you think of the requirement of having to email your adviser as a check-in during weeks 3, 6 and 9?
- What do you think of the requirement of having to read the bulletin board and post at least 5 messages during the 10-week internship period?
- What do you think of the bulletin board set up which included curriculum area forums and adviser group forums?

- Did you keep in touch with other interns during the internship? (At your school; at other schools) How?
- Tell me about the relationship you developed with your adviser both electronically and face to face.
- What did your mentors think of the email and bulletin board process?

The volunteers included 7 males and 4 females who had successfully completed the internship. Five had been high users of the bulletin board, 4 moderate users, and 2 used it very little. The table below shows the usage range of all the preservice teachers completing the internship.

Access and usage of bulletin board

	Hits	Read		Posts
1-100	10	13	<5	17
100-200	11	14	5-14	21
200-300	13	8	15-19	10
300-400	5	7	20-24	7
400-500	3	15	25-29	1
500-600	15	11	30-34	
600-700	9		35-39	1
700-800	1		40-44	1
800-900	1	— 68	45-49	1 — 60
	68			

19 interns did not access the site at all; 8 accessed the site but did not post any bulletin board messages.

Five interns failed to reach internship status or withdrew before its completion. All of these people had minimal postings on the bulletin board (none or one), however three of them accessed the site often and read messages (around 200 hits), perhaps indicating that the bulletin board offered some sort of support but that they did not have the confidence to post messages.

Findings and discussion

The participants agreed that the concept of utilising the capabilities of ICT to facilitate intern-intern and adviser-intern communication during the internship was ideologically sound

whether they made full use of it or not. They pointed to its value in helping them to keep in touch with their colleagues and friends, in providing a link to the university, and in providing an avenue for them to seek out strategies and ideas for their lessons. They also suggested that it was important to ensure that graduates can use technology because it would be a necessary part of their working lives.

Interns reported that they used the bulletin board for a variety of purposes. Many stressed the importance of keeping in contact with friends during the internship for personal support, and also the importance of having contact with their curriculum lecturers. In their teacher education program, these preservice teachers had previously had limited contact with their curriculum lecturers while they completed their field experiences. Most highlighted the importance of the bulletin board discussion being focussed on teaching and getting ideas and advice, often in relation to behaviour management issues. In addition, many reported the benefit of being able to *read the messages and see that others were having the same problems as you. It was good to hear others' experiences.* Some reported using the bulletin board more often earlier in the internship period, and as their self-confidence grew, they felt they needed it less. One participant used the reading and posting as a prompt to reflection instead of keeping a journal:

Instead of keeping a journal I used the bulletin board to reflect on other people's ideas. I hate keeping journals. I used the bulletin board as a discussion point. One topic that comes to mind is behaviour management and one of the characters made a point about getting the kids to sit down and if there are any problems then just slap them down. One of these people had an experience with a year 12 in his first week and I thought there would be a better way of doing it than that. Maybe start off slower and then there might not be that sort of confrontation. It was good for reflection about my own practice. (Shaun - interview)

Most pointed to the value of the technology in providing a link to other interns and advisers while they were completing their internship, an experience which is typically characterised by disconnection from other interns and the university curriculum lecturers. The importance of intern-intern communication and support was stressed often by the participants, with one pointing out *I think if you were in a big school with 5 or 6 other interns it (the bulletin board) wouldn't be so necessary.* One participant summed this up when he referred to the bulletin board and email as *an electronic lifeline.* For him, its particular usefulness was in the opportunity it provided to make immediate links to other interns. He thought it was particularly useful in the early stages of the experience because if he was having a problem, he would prefer to contact his preservice teacher colleagues to discuss the issue rather than talk to his school based supervisor. He thought that drawing his supervisor's attention to the fact that he was having a problem might influence their judgment when they were required to evaluate his competence to transfer to intern status.

However, another participant said that if he were having a problem, he wouldn't want to post it on the bulletin board because the mentors in the school know the context and the students best and therefore could offer the best advice from their perspective. He did add however, that if the problem was to do with the mentor or the school then he would email or telephone his peers or the adviser for advice, but that he wouldn't put this information on the bulletin board.

Even though most participants reported that their mentors agreed that the bulletin board discussion group facility was a useful idea, they also said that because of a lack of time and/or lack of computer skills, their mentors did not get involved. It seems most mentors were unperturbed by what was going on. Many participants suggested that a similar facility

for mentors would be useful since mentors did not often get to talk with other mentors about mentoring issues. In addition, the participants argued for the value of only interns and advisers having access, and suggested that the adviser-mentor relationship should probably develop electronically as well, in another site.

Use and access

Many of the participants accessed the bulletin board daily, 2 accessed it about once a week.

My personal use of computer communication tends to lurch from one extreme to the other - I either forget about it all together, or I find myself wanting to check every hour just in case I'm missing something!! (Lyn - interview)

I checked it everyday in the hope that there was something there that would help but I found it generally not much help at all. I just wanted to get an idea of what issues other people are concerned about and keeping in touch was a major reason as well. I filtered by names and length of the message. I would have a quick browse and leave it. I logged on from school and sometimes from home at night. (Peter - interview)

Most reported being *time strapped* during the internship and therefore had to organise to use their time efficiently. Like Peter, above, those who accessed the bulletin board regularly developed their own filtering mechanisms. Many filtered by the name of the person posting the message: *You learn who writes the sensible things and whose messages not to read*. Some reported that they were more likely to read the postings from someone they knew personally. Others filtered by subject or topic lines but often found that difficult because even though people responded to one thread, progressive postings in that thread meant that the discussion became less and less focussed on the original subject line. It was suggested that there was a need for people to construct *better titles to indicate what was really in the message*.

Some reported difficulty of getting computer access at their practicum schools. It seems that those who had computer access at their schools used the bulletin board more frequently than those who had restricted or no access. This was exacerbated if they had no computer access at home.

Personal support network for interns

As indicated above, many of the interns pointed to the usefulness of the bulletin board and email links in providing personal support during the intense and career forming period of the internship. This was particularly evident when interns were experiencing difficulties.

Two interns had a difficult and interrupted internship because they had to be relocated to another school shortly after its commencement, at their first school's request. Both of these interns had high rates of hits and reading (about 500 each) but low postings (1 and 3 respectively), again suggesting perhaps the supportive nature of reading the bulletin board but a lack of confidence in posting. Indeed one of these interns emailed me directly to say *I just wanted to say how much I'm enjoying reading everyone's comments in the bulletin board. This was such a great idea, and I'm sure lots of people feel the same way*. However she only offered one posting during the entire 10 weeks.

Mark, the other intern who had a difficult time at his first school, used the bulletin board to gain personal support from his peers, and help him through this difficult time. The following series of postings shows his interactions and the responses from his peers. His posting

came in the middle of a discussion about the relative merits of government run schooling over non-government schools.

Article No. 215: [Branch from no. 211]**posted by Mark on Tue, Feb. 29, 2000, 22:26**

I'm sorry to report that I'm still alive and out there. Some of you might already know this, but I left my initial prac school after a certain amount of conflict...but I left with my head held high. And my feet held higher. Re the points that have been made about State vs Private schools, I have to say that in my experience things such as respect, behaviour management, etc. are as much a matter of school cultures as of anything else...the main reason I departed from my first school was that I bumped up against an infuriatingly rigid private school culture, in which I was labelled uncommitted and unreliable because I (don't laugh, this is serious) didn't walk quickly enough between classes. Some State schools are almost as wanky, I believe, and you can't make any hard-and-fast judgements about private=good, state=bad without knowing something about the individual school.

Article No. 231: [Branch from no. 215]**posted by Luke on Wed, Mar. 1, 2000, 22:17**

Well said Mark, I am very sorry to hear you had a bad time in your first school, I would have lasted even less time in a situation like that. You are a great teacher Mark, I will never forget your mini-lesson about poetry. They don't deserve you. Luke

Article No. 224: [Branch from no. 221]**posted by Lyn on Wed, Mar. 1, 2000, 17:18**

Hi all, and especially hi to you Mark. It is nice to know you still have the strength to get between lessons at all, at whatever pace.

Article No. 296: [Branch from no. 231]**posted by Mark on Mon, Mar. 6, 2000, 21:56**

First off, hello Lyn, hope it's all going well. And thanks to Luke too, well said, and thanks for the support, I will always wear it! I still use the Ern Malley "fake" poetry trick in introductory poetry lessons, too...it's part of my repertoire now. In any case, things are much better for me now, I am at ... State High

which has a much freer approach to teaching and to learning, and new ideas and strategies are encouraged...a much more intern-friendly place.

The following thread provides an example of a discussion started by an intern to seek out support and confirmation of what she is feeling.

Article No. 32: posted by Roberta on Wed, Feb. 16, 2000, 11:00

just a note to say hi, hope you're all surviving. One question that's bothering me. are most of you finding this a lot less stressful than previous pracs? I'm just wondering if my lack of stress and panic is due to my improving capabilities or if I'm just becoming too lax. I just feel so much more relaxed than the previous pracs (apart from when I take my year 10 Cit. Ed. class which consists of 15 students, 10 of which have criminal records). anyway hope you're all doing fine. won't it be nice when we are actually being paid for our efforts. see ya.

Article No. 35: [Branch from no. 32]

posted by Michael on Wed, Feb. 16, 2000, 15:45

Hi Roberta Yes I'm finding it a bit easier mainly because my current school has 70-min periods and the previous school had 35-min periods. So I actually prepare less lessons per day.

Michael

Article No. 39: [Branch from no. 32]

posted by Terry on Wed, Feb. 16, 2000, 16:02

Hi Roberta, I was thinking exactly the same thing. I think that we are starting to get this teaching thing.

Article No. 42: [Branch from no. 35]

posted by Ally on Wed, Feb. 16, 2000, 16:09

I too am finding prac easier this time around. I think it is due to a combination of things - I am at the same school with the same supervising teacher and many of the same students as last year; and I think my skills have improved dramatically and I feel more confident. Hope you are all enjoying prac

Article No. 46: [Branch from no. 32]

posted by Sonia on Wed, Feb. 16, 2000, 18:06

I was starting to wonder if it was just me finding prac a lot easier than previous pracs. Even though it is a new school and a state school this time I thought it would be much harder than it is. I think I am much more confident after seeing that my worst fears haven't come true and that I can do what I need to. I hope we all continue to enjoy prac.

There were many examples of threads where interns supported each other in difficult times. The following thread provides one example.

Article No. 70: [Branch from no. 46]

posted by Amy on Thu, Feb. 17, 2000, 17:54

I'm glad to hear you all seem to be having a good time, but it's rather depressing because I think I'm hating this prac every bit as much as I loved the last two pracs. I'm in a different school this time and Amy

Article No. 74: [Branch from no. 70]

posted by Lyn on Thu, Feb. 17, 2000, 18:18

Hi Amy, Like you I was rather disheartened to hear what a great time everyone else is having on prac. My school this time is much more difficult than last year. Thinking of you. Lyn

Article No. 78: [Branch from no. 74]

posted by Amy on Fri, Feb. 18, 2000, 06:33

Hi Lyn, Thanks for your reply. Although I was sure not everyone was having a great and less-stressful time this prac, it's been good to actually hear from someone else who feels much like me. We'll have to catch up when this is over and swap stories...celebrate surviving the 10 weeks! Thinking of you today too and let's hope things pick up. Mind you, I've said that at the end of each week so far and each time I say it things tend to go down rather than up. Amy

Article No. 79: [Branch from no. 74]

posted by Roberta on Fri, Feb. 18, 2000, 12:42

hi Lyn, please don't be disheartened. though I am finding many aspects of my prac a lot easier than previously I am still having a pretty rough time in other respects. anyway hope my misery has made you feel a little less alone. good luck.

In the interviews and focus group sessions at the end of the internship, the value of the bulletin board facility in providing a support network was highlighted by all. Clearly this is an important outcome of utilising the capabilities of ICT in the practicum in preservice teacher education.

Internships in rural and remote schools

Interns in rural and remote schools tended to be high users of the bulletin board. Annabelle and Norma completed their internship in remote areas:

That was the only way I could communicate. I liked it because I had no contact with anyone because I was all by myself. Most of the people I wanted to speak with, checked their email and the bulletin board, so it was a good way to keep in touch. I could have picked up the phone but it was often in school hours. The value of the bulletin board is that you can send a message when you think of it and they can get to it later and at least you know they are going to get to it. If you leave a message on the phone then who knows what is going to happen to it. I think the bulletin board was more reliable. The email through the WebCT was really good because you could ask a sensible question and that is what you want responded to. I think the email part of it was excellent. Also, it is nice to see that everyone has their problems because you may think that you are doing so badly and then you get on there and you see that you are not really. (Annabelle - interview)

As a remote intern, the bulletin board provided close contact with peers and the university. Since I had no face to face supervision from the university, having the electronic contact with my adviser was very much appreciated. I didn't have heaps of contact but I felt that there was always someone there. (Norma - interview)

Similarly, one of the participants said that the opportunity to interact with others via email and the bulletin board was *especially good if you are the only intern at your school*.

Bulletin board set up and structures

Most participants wanted subject specific forums that were particularly dedicated to teaching subject areas (e.g. biology rather than a general science forum). They said that people would be more likely to contribute usefully since everyone would personally know everyone else before using the bulletin board as a result of previously having studied teaching subject area courses together. However they also cautioned that this would only work well if the curriculum lecturers were active on the bulletin board. This year's experience has shown that in the forums where the curriculum lecturers were active, beneficial discussion for the interns occurred because they focussed on pointing students to resources/ giving advice. However many curriculum lecturers were reluctant to contribute. Lack of time and lack of skills were cited as reasons.

Most participants agreed that it was good to have adviser group forums but that often these advisers did not have teaching subject area expertise. This was a perceived problem because the interns' needs related to getting advice about lessons etc.

It was good because we had a very small group and I could email you and I didn't even know who you were. It was nice to know that there was someone there and you always responded which was good. With the bulletin board you can put something in and not be sure that it would even get answered. However, I think it would have been better if we had have met before hand. (Annabelle - interview)

Many felt that the informal structure for postings should be maintained and that the university should not be too directive in telling interns what the on-line discussions should focus on. They felt that either interns or advisers should start threads as they felt the need.

The participants suggested that without the bulletin board posting and emailing requirements many people would have not done it. However, one participant said the requirements meant that some interns just posted because they had to, and this resulted in people posting a *lot of junk*. Another participant said

When I was asking a question it was generally just for something to say so it wasn't a genuine problem. It did however lead me to the other issues that were involved. Unless I had to I would have just looked as there was some stuff that was interesting but not a lot that I felt I wanted to respond to. (Neville - interview)

Some participants suggested creating a forum for personal communication and 'socialising' since there seemed to be a need for this but they didn't want the main forum or curriculum or adviser forums cluttered with these things.

A group of four-six of us, all at different schools, were in regular contact via email and I found this very supportive. This could be served by small 'friendship forums' via uni bulletin board but I think the lack of privacy would hinder their use. (Lyn - interview)

There was also a suggestion that maybe a topic-based forum (e.g. behaviour management) might be a useful structure.

Email

Email was used by the participants and judged as very useful because *you can pick out someone you want to talk to and have a serious conversation. You can ask serious questions and have it responded to*. In addition, *there are some things you're too scared to tell everyone and on the bulletin board everyone can see your things*. Many used it only for the check-in with their adviser, while others used it regularly to contact friends in other schools. Another participant pointed out however, *I think email is great, as long as the other person is reading their email. It is frustrating to send an email, wait 24 hours, send it again, wait again and then finally have to ring them*. (Lyn - interview). It was suggested by one of the participants that it might be useful for the mentors to do the email check-in with the adviser rather than the intern.

Many of the participants said that they thought many people didn't follow through with all the required check-ins and wondered whether it was necessary because they believed interns would phone their advisers if there was a problem. Early in the internship, there seemed to

be some confusion about what to do for the check-in, for example: *What I am I supposed to discuss with you on the email? Prac is going fine. Is that what you want to hear?* One participant said that the check-in requirement was not needed since the mentor and principals in the schools knew how you were going, so the email check-in was really just to say *I was fine and there was no real communication.*

Problems, impediments and challenges

There were a number of reasons why some interns used the bulletin board very little. Many who were low users said they much preferred face to face contact or telephone to check-in. One participant who was interviewed thought that if you had a good relationship with your school based mentors, then you would have less need to use the bulletin board. Another said it was the content of the postings in the bulletin board which lead to him not posting more messages:

Yes I did use it. Although I didn't put much stuff on the bulletin board I would have a look quite regularly to see what people were putting on there. I found that the things I was most concerned with were things that weren't being put on there. From my perspective I wanted more of the bigger picture stuff and the little nitty-gritty stuff I wasn't interested in. (Peter - interview)

Some of the participants reported being reluctant to contribute when the discussion appeared to take a negative turn.

When I first got onto it, it was really about everyone's concerns and I didn't want to contribute to that because I had nothing bad to say. (Annabelle - interview)

Some got very annoyed with what they saw a negative threads and wanted to read things that were sensible and useful. *I wish the silly people would get off.* One participant expressed a concern about posting something and not getting a response:

It is hard to get responses as if you post something and then ten other people post something more interesting or controversial then yours is forgotten and will receive no replies. (Neville - interview)

Some concern was expressed about communicating with advisers or interns they had not met personally beforehand. *I didn't like not knowing the people who were using the bulletin board as it makes you reluctant to write a message.* Another said *when people don't know you they are less likely to offer advice or criticism.*

One of the interns was very cautious about posting messages because of the perceived permanence of the postings. She said she was much happier to offer her views in a face to face tutorial or seminar context, but that even though she read the bulletin board very regularly, she was reluctant to put her views in an electronic posting to the whole group:

In a face to face tutorial session, if you say something people will usually forget exactly what you've said shortly after the session. However if you write it down and press the post button it's there for everyone to read and read again.

There was concern expressed about dominance of the space by some interns (mainly male in one intern's view) and about being 'attacked' for comments they posted. These things resulted in some interns being reluctant to contribute. For example:

I logged onto the bulletin board every couple of days and was very interested in reading the heated debates but after being 'attacked' for something that I wrote, I was reluctant to participate more fully. However I continued to read the postings. (Ally - interview)

This was the thread she was referring to and even though as the excerpt demonstrates, the adviser jumped in the support her, she never posted another message on the main forum.

Article No. 211: [Branch from no. 204]**posted by Ally on Tue, Feb. 29, 2000, 20:09**

Regarding the "respect" issue: the school I am at for my prac (a state school) has done some research into this. They have surveyed parents, teachers and students. One thing that came out of these anonymous surveys is that students will respect you (the teacher) if you show a mutual respect. I think it is important for the teacher to create a learning environment that incorporates a genuine mutual respect. Remember that these kids in state schools have just as much a right to education and to your respect as do the kids in the private system.

Article No. 226: [Branch from no. 211]**posted by Janice (Adviser) on Wed, Mar. 1, 2000, 18:11**

Hi Ally

I totally agree with your comments re. the importance of mutual respect between teachers and students, and the rights of ALL students, including state school students, to this. Janice

Article No. 230: [Branch from no. 211]**posted by Luke on Wed, Mar. 1, 2000, 22:04**

what's your problem Ally? No one has said that students in the state school have no right to the same respect or education! what has been said is that a few of them don't know what the word means and that they take your respect as a joke and as an excuse to walk all over you. If you want to be polemic look for some real and sound points, please. Luke

Article No. 232: [Branch from no. 230]**posted by Ally on Thu, Mar. 2, 2000, 06:08**

I don't have a problem Luke. I believe that it is a part of our role as teachers to teach students what respect means and one way of doing this is by showing them respect. If they have no role models, how are they expected to learn. True, parents have a responsibility in this area, but we all know that it doesn't always happen in the home. I was trying to point out the importance or mutual respect, not just that you demand that the students respect you.

At one stage, the discussion took a distinctly negative and accusatory direction and started to meander off onto topics related to other aspects of their preservice teacher preparation degree. As moderator I posted the following message, which prompted a barrage of responses, some of which are included:

Article No. 473: posted by Di Mayer on Tue, Mar. 21, 2000, 17:02

Subject: Some moderation comments

Hello all ... some moderation comments:

- The EU750 Bulletin Board has been set up to discuss issues regarding the internship. Please keep your discussions focussed accordingly. If there are other issues you wish to discuss/ complain about/ celebrate please find other more appropriate channels.
- In addition, please refrain from flaming and abusive language. Some postings have offended others who have access to this site (both students and staff).

Regards Di

Article No. 474: [Branch from no. 473]

posted by Jack on Tue, Mar. 21, 2000, 20:34

Subject: re: Some moderation comments

Di,

While I understand your concerns about moderation, ... probably one of the worst things you can do is to try & silence people. Instead create a place where they can let their rantings & ravings out. You don't have to read or listen to what they say.

Article No. 482: [Branch from no. 481]

posted by Mark on Wed, Mar. 22, 2000, 10:50

Subject: re: Some moderation comments

Speaking as somebody who posted some intemperate comments which people may have found offensive in tone, if not in sentiment, I must say that I don't normally come out with such stuff and I surprised myself most of all. By way of a mea culpa, let me say that the day after I posted my comments, I had to go and have a TV cable shoved down my throat in order for some medicos to check out exactly how much damage the stresses of the past few months have done to my insides.

During the time, a number of interns emailed me directly to express their support for my moderation tactics, but none expressed these publicly on the bulletin board. For example:

I have been feeling 'uncomfortable' as well with the tone of comments on the bulletin board and have refrained from commenting as much as I would like. My suggestion is to have an information session about mannerisms etc on using WebCT, perhaps only for the new students ... when to email and when to 'post'. (Allan - direct email to me)

In the interviews, many participants expressed annoyance at some postings during this time:

I got annoyed at the misuse by some as their own soapbox to expel pent up frustration and be vindictive and nasty. I wish personal comments had been kept to the email and not posted on the main forum. This wasted a lot of time sifting through these. Generally the bulletin board was very helpful except for the bout of bitching and whining. Immediate responses by the moderator were much appreciated. However it was disappointing when an issue you felt was important wasn't taken up by others in the group. (Norma - interview)

Like Lyn, most participants agreed on the value of being able to keep in communication with both university advisers and preservice teacher peers, and of getting useful information for their teaching, but pointed to the importance of ensuring that the electronically mediated environment was both welcoming and useful for all:

I enjoy the bulletin boards as a means of keeping up with everyone, however, the quality of input does depend on the quality of the participants and time can be wasted reading irrelevant comments. Of course, the opposite problem also occurs and some people are reluctant to contribute because they feel everything they write must be of academic standard. It is difficult to strike a balance of 'friendly, useful, usage'. I think there is a need for an on-line 'social' meeting place as well as a more academic forum. Most emphatically, I don't see the bulletin board as simply a platform for dissatisfied students to air their complaints - endlessly ... (Lyn - interview)

Conclusion and implications

In this study, the preservice teachers highlighted a range of benefits associated with using ICT in the internship component of their teacher preparation program. For them, the use of bulletin boards and email provided:

- Links with colleagues and friends for personal and professional support;
- Links to the university and the curriculum lecturers;

- Avenues for seeking out advice and ideas on strategies, resources and behaviour management;
- Ways of helping beginning teachers become competent users of ICT in their professional lives;
- Networks for those placed in rural and remote schools; and,
- An effective and time efficient way of communicating due to its asynchronous nature.

Via the bulletin boards and email, interns were able to seek out professional guidance and support. For many, ICT provided an 'electronic lifeline'. Interns could ask other interns for ideas for lessons and for suggestions with behaviour management issues. In addition, they were able to gain personal support when they needed to share 'the troubles of the day'. They were able to see that they were not the only ones having problems. They perceived there was an advantage in being able to seek assistance from a fellow preservice teacher since they did not want to feel inadequate in front of their supervising teacher or mentor. University personnel were very accessible when ICT was used in the internship, however interns found access to the curriculum lecturers more helpful because they were focussed on getting ideas for strategies and resources for their lessons. Therefore, they saw value in subject specific forums in which the relevant curriculum lecturer was active and highly involved on a regular basis. Those in remote schools did not feel so isolated because they could easily contact colleagues and the university via the bulletin board and email. Interns liked the asynchronous nature of the medium because they were able to log on either at school or at home when they had some spare time; they were able to fit this around their other internship commitments. The asynchrony of the bulletin board also allowed participants to take the time to carefully consider their views and to try them out with colleagues and university advisors, and to be exposed to a larger number of views than would be possible in real time, face to face seminars. However, as Selinger points out, 'the disadvantages come from having to convey meaning through text ... or not being able to engage in a quick fire debate which can be stimulating and enable students to "think on their feet" - an essential skill in the classroom' (p.29). As coordinator of the whole internship program, the bulletin board was particularly beneficial in helping to distribute general messages to the whole cohort of preservice teachers. For example, there were messages about upcoming job opportunities, meetings on campus after the internship, resources available, and upcoming conferences and so on.

However, the use of ICT in the internship in this study was not without some problems, impediments and challenges. These are summarised thus:

- The tenacity of preexisting beliefs about supervision in the practicum
- Irrelevant and inappropriate postings
- Negativity (e.g. people always talking about their problems)
- Major focus on technical approaches to teaching (focus on 'how', not 'why')
- Dominance by some interns and perceived personal 'attacks'
- Concern about the perceived permanent and legitimate nature of ideas when they are written down (unease with 'exposing' oneself in this way)
- Inappropriate views being given 'air-time'
- Networked computer access at schools

For some, the use of ICT in the internship was seen as a poor substitute for traditional face to face supervision visits, even though during the internship there were school visits as well as electronic communication from the university adviser. Irrelevant and inappropriate postings and the negative tenor of some parts of the bulletin board discussions perturbed some interns. The dominance of a few interns in the discussions and the perceived personal attacks meant that others were reluctant to post messages. Like Selinger, not all participants in this study found bulletin boards an easy forum to air their views, and many

regularly only read messages and took from them ideas for their teaching. For those interns who did not use the bulletin board and email, difficulty with accessing networked computers was sited as a contributing factor. Interestingly, unlike Carter and Watson , the participants in this study did not report the 'stress and frustration when timely support is not available and the technology is not working well - or simply not working' . Prior on-campus experience with the technology is probably able to account for this, and is therefore an indicator of how to avoid extra stress and angst during the already stressful and busy internship period.

The discussions on the bulletin board exemplified the tenacious, powerful and relatively inflexible and resistant to change nature of the preservice teachers preexisting beliefs . They highlighted the relatively non-reflective way in which some preservice teachers, when interacting amongst themselves in a public way, seem to focus on their teaching practice. A lot of discussion focussed on getting ideas for teaching upcoming lessons. Dominance in tone and frequency of posting often appeared to give some preservice teachers and their views legitimacy, and thus views and opinions became polarised into 'right' and 'wrong' ways of doing things. In some instances inappropriate and unjust views were afforded legitimacy due to their permanent slot in the virtual environment. It was also this permanence that caused some interns concern in exposing their ideas in such a public way. It was only through the carefully structured intervention of university personnel in some instances, that reflective practice was developed and promoted.

Thus the findings from this study point to the value and benefits associated with using ICT in the field based components of preservice teacher education. However, the study also highlights a number of challenges and issues which must be addressed if this electronic learning environment is to provide a facilitatory learning space and place for becoming a teacher. Traditional roles in the practicum whereby the university person 'supervises' and the preservice teacher is 'supervised' in the school, are blurred. University teacher educators and preservice teachers move in and out of these roles in the electronic learning community that is afforded with the use of ICT. This stands in contrast to the 'somewhat infrequent and hurried visits that many student teachers experience as the norm and has implications for the nature of the supervisory cycle, now conceptualised in terms of an ongoing process of professional dialogue' . Using ICT enables a 'community of discourse' where 'teacher, student, and professor are one, and communication is multi-sided, ongoing and genuine' and 'students co-construct their professional selves through interactions with informed and involved partner/ mentors invested in their development' . Supervision can be seen as 'a process of human interaction, the effectiveness of which can be augmented but not replaced by emergent technology' . This has important new implications for the roles of all participants in the electronically mediated learning environment.

For academic staff, there are issues of greater work intensification associated with these new ways of working . Facilitating learning to teach in virtual learning communities is time consuming and needs constant monitoring and attention. Often, the time required to implement and sustain computer-mediated initiatives is grossly underestimated . In addition, as this study shows, there is a much more significant role for the curriculum lecturers, those who have traditionally not had much involvement in the practicum component of preservice teacher education. A particular challenge for the university personnel is how to facilitate preservice teachers' reflection and professional growth, drawing on contemporary theories of learning to teach - specifically, how to raise students' awareness of their own and others' taken-for-granted assumptions and their development . As this study shows, discussion topics suggested and followed by preservice teachers can often take somewhat predictable paths of focussing exclusively on techniques and skills for teaching rather than moving to higher levels of reflection which involve examining the outcomes and consequences of the professional practices in terms of their justice and outcomes for individuals. Of course, this is not only relevant in the electronic learning environment; it is equally so in traditional face to

face modes of supervision. But here, it is the role of all university personnel - curriculum lecturers, advisers and discussion group moderators - to work together and consistently in this pursuit. Appropriate skills and knowledge development are required for the university 'supervisors'. The advantage of the electronic world is that everyone can read and respond to everyone else's messages, therefore there can be some modelling of appropriate practices that aim to encourage reflection and growth in learning to teach. Thus there is a different role for the 'supervisor'; here they must know how to facilitate professional growth and critical inquiry within the new learning environments made possible by ICT. They need to be proactive and not only react to or read what is happening on the bulletin board.

There are also implications for preservice teachers if teacher educators are to utilise the capabilities of ICT in facilitating learning to teach during the field based components of their teacher preparation programs. There are issues surrounding the importance of skills and knowledge in using the technology - to filter messages, to appropriately name messages, to judge what is enough content for one message and to decide what forum to use or whether email might be more appropriate. Also of importance are things related to the netiquette of using bulletin boards - issues of anonymity, of using appropriate language, and of learning how to negotiate the electronic discussion context. In addition, since the roles associated with this new electronic learning to teach context are blurred, preservice teachers can also take prominent roles in facilitating professional growth for their colleagues. This becomes a particular challenge if critical inquiry and reflection are the important processes for learning to teach.

Therefore this study has highlighted the potential of ICT in the teacher education practicum to open up new learning environments with reconceptualised ways of looking at supervision as facilitating learning to teach rather than as the traditional 'check-up' trips to schools and associated appearances of accountability. In these new learning environments, the roles associated with learning to teach are also reconceptualised and thus the context for, and orientation towards, ongoing professional growth working with teacher colleagues, is established and foregrounded.

References