Definitions of Net that Teachers Experience

Introduction

This paper explores a different definition of the Internet than that normally adopted by the many texts and references aimed at teachers. Rejecting the usual definitions like a ‘network of networks based on TCP/IP Protocols’ or a ‘global collection of resources that can be reached from those networks by millions of users.’ (Simpson & Simpson, 1997: 239), this paper explores a communities definition of the net, that the Internet is made up of intersecting communities of people (Williams and McKeown 1996), illustrating that when teachers experience this view of the Internet as an insider, they tell different stories about the global computer network which is being thrust at school buildings.

The writers, from the Research in Information Technology Group (RITE) of Queensland University of Technology (QUT), are involved in a number of professional development projects in Queensland which provide the focus for the research programs based on Narrative Enquiry methodology (Connely and Clandin 1990). This methodology is used in investigations into teachers’ lives while they participate in professional development programs (Halliwell 1994, Williams 1995b). The writers collect stories from teachers about their experiences, reflecting on these insights to build professional development programs for teachers as they struggle to make sense of the definitions and educational promises of Internet connections into schools. Some stories are collected from email, some from written reports and others from interviews.

In this paper, data from three programs are reported. Oz-TeacherNet, a professional development project where Australian teachers use the Internet for professional and curriculum purposes is centred around the communities model of the Internet. Conversations from those communities are recorded in email lists which are archived on the oz-TeacherNet web site. The curriculum and professional development activities of oz-TeacherNet are integrated into other professional development programs in which the writers are involved. The Computers in the Curriculum Professional Development Program is a one year program of professional development conducted by the RITE group on behalf of the Department of Education, Queensland. In this program, teachers are provided with Internet access while completing tertiary studies and participating in a professional development program conducted in distance education mode. The Connect Teachers Program is a project conducted jointly by RITE, QSITE (Queensland Society for Information Technology in Education), and the Department of Education, Queensland. In this program 100 teachers were provided with personal computers, modems and Internet access. A professional development program for these teachers was based around the communities definition of the net explored in this paper and practiced the immersion models for professional development (McKenzie, 1991).

Stories told by others

Descriptions by schools about their large scale Internet connection projects are laced with details of numbers of connections, bandwidth requirements, cabling specifications and service provider conditions. Behind these proudly-told stories of the technology, is the rationale that modern students need access to the reams of information that can only be found on the World Wide Web, the information base of the Internet. The perception for followers of the Internet ‘pathfinders’ tales, (Lee, 1994) is that schools must be web-connected if their students are to compete in modern educational systems. These stories are complemented by those told by the media, and by the Internet vendors who brightly display the exciting World Wide Web screens and warn of the dangers of the Net for students. This information model is the basis upon which disconnected teachers try to make sense of the plethora of stories told about the Internet.

When teachers first find out about the Internet, they begin their journey with one or two images of the Net in mind; that of a network of computer networks or that of a vast source of information archives. It
is no wonder they have this picture. Before a teacher is connected, they rely on paper-based information, media interpretations, vendors’ demonstrations and stories from recently-connected colleagues, all of which tend to describe or illustrate the Internet in terms of physical things that can be shown. Engst, Low and Simon (1994), in their Internet Starter Kit often distributed with connection packs, describe the Internet in terms of ‘connected machines’, ‘software programs’ and ‘a large quantity of information’ (p. 17). Internet Australasia, a popular magazine about the Internet read by teachers, contains pages of WWW site reviews and stories. Media reports on the Net also describe the highs and lows in terms of WWW sites. Vendors’ displays at computer shows and in brochures are quick to provide the teacher with glitzy illustrations and reasons for connecting students to the ‘ever-increasing source of educational information’ (oz-Email brochure). For teachers and schools not yet connected, these images of the Internet dominate the decision-making processes which result in yet another Internet connection. These images of the Internet dominate the decision-making processes which result in yet another Internet connection. A few short weeks ago my knowledge of the Internet was limited to thinking it was a lot of information. Things began to change when I got an email address.

Barbara, Computers in the Curriculum Program

Tourists, immigrants and natives

Teachers’ experiences of the Internet are akin to those of people who become involved in a different country. Usually the first experience of a new place is from a tourist’s perspective. To find out about the new place before they visit, tourists ask questions about the artefacts and monuments of the country. What are the natural and built monuments that tourists can go and see? What places can they stay where they will feel comfortable? These tourists draw an image of the new place in terms of what they see, they stay, the geography and the landscape. But not all tourists visit a country on the fly-over tour ‘doing’ the country by taking photographs of the monuments from behind glass screens. Short-term visitors who stay with friends or relatives or those who participate in the trade and business of the country ask different questions. These tourists have to understand the country in terms of the people who live there. What customs do the communities practice? What language do people speak? What do the people value? How do they work, live and play in their country? What is the country like is read in terms of what the people are like and what they do.

The Internet could also be represented as a new country. It is a place that contains intersecting communities of people, which are shaped by the individuals living within social, political and cultural contexts of the groups. These contexts determine how individuals participate in the activities and dialogue of the community and how the collective group is seen from the inside and outside. People within these communities express opinions, share ideas and chatter with others in formal and informal ways. Some of the groups or individuals record their ideas and wisdom in formal publications and make these available to the community at large as a way of sharing their collective knowledge. This intersection of email-based communication and web publishing enables the Internet to be read in terms of what the people are like and what they do.

Tourists however, who visit the net occasionally from an Internet Cafe, trade show or school, look up the World Wide Web sites and monuments which characterise the view tourists have of a country before they visit. Such fly-over visits provide little understanding of the social and cultural fabric that surrounds the people who live there and which determined the monuments which were built. Teacher-tourists then only have experiences of artefacts and monuments to share with their students, ensuring they too will remain as tourists at best having a surface level understanding of the new communities of the Internet.

While first browsing the World Wide Web, the first thing I knew about, I built an image of the Internet I thought was a global network. I have come to realise it was only a world wide web. How insular that understanding seems now.

Judy, Computers in the Curriculum Program

Changing the information model

It is predictable that schools would adopt an information model of the net and drive technology planning and curriculum from that perspective. Teachers are comfortable with information. They pass on information they have read. They develop curriculum where students can look up the same information they have. "Classrooms were established primarily for the purposes of..."
passing on information.’ (p.100). They build experiences where children analyse information, synthesise ideas, and communicate new knowledge. These are all important skills built into new syllabus and national curriculum documents. The technical skills to enable these processes in an information and computer age, are being added to curriculum documents further reinforcing the commonly-held curriculum imperative that students must gain information skills with new technologies. There is little argument that the convergence between information skills and technology skills is an important curriculum and hence resourcing decision for schools.

Such understanding of the new technologies and information skills has resulted in schools placing the Internet connection into the school library, or in larger budget solutions created rooms for students to use simultaneously look up stuff at the same time. These decisions are happening in the same way that technology decisions are usually made, by putting the hardware in place and expecting that teachers will somehow know what they are doing with it and why.

Recently some teachers in Brisbane met to discuss their use of the Internet in their schools. With connections only a few months old, their schools had encouraged teachers to make use of the facilities and build Internet experiences into curriculum activities. These teachers then shared their stories of how they worked from the Information model of the net, providing opportunity for children to draw on resources beyond the school library and to access freely the web-based resources of the net. At the next meeting, they told the story of how the students when left to their own devices did not simply look up the information. They found an email address and began to interact with the source of the information; the person who wrote it. The students had pointed out to the teachers that the model of information was changing and that seeking first hand sources and being able to interact electronically with people were the new information literacy skills.

### Definitions of Net that Teachers Experience

#### A different window on the net

In professional development programs within the oz-TeacherNet Project, QUT and the Queensland Society for Information Technology in Education (QSITE), teachers experience the communities of the Internet from the inside. They are encouraged to contribute and listen to peer communities through email, email lists and newsgroups. The programs for these teachers use buddy groups, online mentors and other community building structures as a way of experiencing first hand the collegiality and professional support available through the online communities which characterises the spirit of the Internet. It is anticipated that by actively participating in professional groups which can nurture them, these teachers will understand the significance of global networks and connected communities to the changing social, political and economic structures of the globe...

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perceptions of teaching and learning. The biggest change is my understanding that the Internet is an opportunity for closer links between professionals. I hope that connection between special education teachers and other teachers in this way will result in truly inclusive curriculum and practices. I am convinced that students and teachers alike will benefit from the real life information exchanges and communication experiences unique to email and the Internet.

Bob, Computers in the Curriculum Program

Not all the teachers in our programs have this experience. The following was collected from a teacher who had extremely limited occasional access at his school.

The net as a silent place where people don’t talk to each other about the information they find. It’s a pity. I can’t talk with them about my knowledge either. I must live in a world with people, real live people, not machines and screens.

MDP530 List Archive

This teacher had adopted the information model of the net and had limited experiences of the Internet to ‘looking up stuff’. (Williams 1996) Although he reported on his experiences to ‘the giant audience in the sky’, (Williams 1996) he had not grasped the feeling that people were listening to him. Limited access at school provided him with little opportunity to talk to his peers and he had not even detected they were there. It is hard not to compare this story with that of another teacher in the same program who had daily access from a home computer.

I found I had 43 email messages waiting for me. So much for wondering who I would write to.

MDP530 archive

Although newly connected teachers change quickly in their understanding of what the Internet might mean for teachers, they also reflect on how difficult it is to share their new understandings with their peers. In our research we gained the perception that disconnected teachers would disbelief, or ‘not get it’ in Barlow’s terms. (Turnbridge, 1995)

This potential is yet to be realised for professional development and in fact it may take a generation before the Net achieves its full potential. This is not due to a technology short fall but the current generation of educational professionals trying using the net with poor connections, from occasional visits and because they hang onto their ‘disconnected’ attitudes.

Brent, Computers in the Curriculum Program

No tourists here!

Building professional development programs which immerse teachers into the communities of the Internet appeared to be the sensible way forward. This idea was used as the basis for the Connecting Teachers Project, a professional development program cohosted by QUT, QSITE and the Queensland Department of Education. The first group of 100 teachers were immersed within the communities definition of the Internet from their first online experiences. This required consistent personal access to technology. The teachers were provided with machines, modems and Internet accounts which they would keep for the life of their machines. This access was complemented by a professional development program which from the outset was far more than a keypressing training program. During 10 days, these teachers built relationships with each other and began to build a supportive network designed to extend beyond the 10-day program.

Extending this network to other teachers was integral to the design of the program. During the 10 days the teachers listened to the stories of connected teachers and people in the support networks of the Department and QSITE. They began the habits of sharing stories with themselves and visitors and asking for help by drawing on the online and offline community of professionals which surrounded the 10 day program. Extending their new face-to-face sharing into an online environment was an important step. The teachers were encouraged to join the email list for their group Connect-Teach, the state list QSITE-Community and the national list oz-Teachers, meaning that when they returned home they had already begun to experience a definition of the Internet which has influenced how they interact with others online and how they understand the role of the Internet in their professional development.

This was not a training course which gave me new skills. It gave me a new lifestyle. It was the culture surrounding the course and what we did - that made the difference.

Andrew, Connect Teachers Program

Although the focus of the program was on connecting people with people, the teachers were encouraged to make use of the web sites built by these communities. In this definition of the Internet, the information archives of the net are seen as products of the communities who build them, a definition which became central to the way the made use of the Internet in their classrooms.

The online dialogue between these teachers indicates that they value their insider’s view of Internet communities. Their online participation seems to be important to their lives. They apologise for being offline for school camps and periods of machine failure. They celebrate the successes using subjects like ‘Shared successes’, ‘Success at last’ and ‘Had to tell you’. (Connect-Teach archive) They eagerly ask questions and help their peers and gradually are contributing to lists and forums outside of the groups formed within this project. The enthusiasm of this group of teachers is infectious and often the topic of conversation within QSITE-Community and oz-Teachers.

‘Why can’t we be as positive as the connect-teachers.’

Oz-Teachers Archive

The teachers in this program were expected to make use of their new computing skills and knowledge to influence other teachers in their school and expected to explore a curriculum idea with their class. A large proportion of the teachers chose to become involved in Internet activities and in doing so, selected project ideas and activities which centred on the use of electronic mail rather than the World Wide Web. Connecting their students to people via the net was the natural application for these teachers.
whose everyday use of the net was not to ‘look stuff up’ but to connect to other teachers.

Anyway, I have learned heaps in the last few weeks which will be very handy when I begin to do Book Rap with my kids. They will also be writing stories and info bulletins for another class in Mt. Isa soon—especially since the whale watch season is now upon us in Hervey Bay. If anyone wants info about this particular phenomenon in this part of the world just drop a line, my class will be glad to oblige.

Connect-Teach Archive

Building professional development strategies

Basing professional development on the community definition of the net requires a long-term strategy with goals that occasional ‘after-school workshops’ are unlikely to achieve. It also requires a level of teacher access that the ‘connecting school buildings’ model is unlikely to satisfy. (Williams 1996) In order for teachers to understand the significance of Internet communities, they need to experience them first hand, often, and as part of new way of working professionally. It is our claim that they need to be immersed in the intersecting communities of the net to appreciate the curriculum and professional implications of this new medium. Immersion of teachers in new ideas is a principle behind many professional development programs which aim to do more than train teachers in low level skills.

Sprinthall and Sprinthall (1980) have proposed a model for staff development that promotes the developmental growth of teachers through a blend of immersion and reflection. Their model stresses the importance of role-taking experiences (learning through active involvement in real situations), an appropriate match of teacher levels of development with experiences and leaders, careful and continuous guided reflection, a balance between action and reflection, extension of the program over a significant period of time (two to three years), and the provision of personal support for the learner, along with a reasonable level of challenge. (McKenzie 1991)

These principles have rarely been applied to professional development programs for teachers who are under pressure to use information and communications technologies in classrooms. There is considerable evidence that ‘teachers are reluctant users of information technology in their work’ (Tinker, Lepani & Mitchell, 1995: 55) and because ‘most teachers are print-reared, only a relative few have made the transition to the new media’ (Spender p.102) and most feel ‘threatened by the computer in their classroom’ (Spender p.116). This observation is contextualised by education systems which are determined to continue the stream of ‘hardware flooding into schools’ (Marslen, 1995:14) ignoring the criticisms that teachers can hardly be expected to know what to do with information technology if they have had little or no computing experiences in their professional or personal lives (Williams 1996, Williams & McKeown 1996). There has been a decade of criticisms calling for professional support models which connect teachers to other teachers also struggling to understand the technologies and the changing circumstances surrounding schooling. (Bigum et al 1987, Bigum 1995)

Models for professional development which immerse teachers within communities of practice (Lave & Wenger 1991) have been cited as a legitimate ways of helping teachers meaningfully participate within the new wave of professional development programs which school connections to the Internet have renewed. (Williams 1995c, Bigum 1995). Our research, included that reported here, continues to convince us that professional development which is based on the professional communities has an impact on how teachers ‘tell stories about a connected world’ (Bigum 1995).

This is the ‘hidden curriculum for teachers’ that Spencer (1995) claims is necessary. In her discussion of the stories she fears teachers tell students, she says that we must ‘shift teachers world view’, and ‘place them in a cultural milieu which is like migration to another country’ (p.116). Loader calls for professional development programs which ‘alter the belief systems and values that constitute their humanness’ (Loader in Spender 1995: 116). McKenzie (1991) adds to the call for in-depth professional development activity especially .... staff development which centers around the possibility of shifting the structure of a teacher’s educational perspective and belief system goes to the core of the individual and requires immersion.

(I immersion into communities of teachers struggling to learn the new stories together, requires sensible access for teachers at a level far beyond that generally supplied by school systems...)
enable the reflection and immersion cited as important by McKenzie (1991), Williams (1995c) and others. Our research complements these views.

Maintaining a regular access time was a real problem. The string of meetings after school (usually 3-5 afternoons per week) leave few opportunities during the week for online activities after school. I tried travelling to school on weekends for block time but family commitments and distance made this ineffective on a regular basis. The only solution was to install an Internet connection at home. I found that online activities are more effective in a comfortable environment at a regular time rather than as a last grab out the door after a typical school day.

Mark, Computers in the Curriculum Program

Doing it for themselves

As is usual in the grass-roots teacher communities which have characterised computer education in this country, early adopters of Internet spaces have been proactive in building their own ways to explore the educational and professional potential of the new medium. They are ignoring the reticence of the systems which employ them, choosing instead to seek their own access and drawing strength from the online communities of like-minded teachers who are building their own definitions of what the Internet is about and deciding how schools might make sensible connections. Teachers must become proactive now in order to shape the kind of impact the Internet will have on schools before these decisions are made for them. They must not wait and they should find out for themselves.

Barbara, Computers in the Curriculum Program

It is those teachers who find out for themselves by participating in the talk with other teachers online who will have much better understandings of the imperative to connect teachers to each other through the Internet. They are the ones who have a chance to ‘get it’ (Turnbridge 1995). How do we tell the others? Unfortunately, like our unconnected decision makers, disconnected teachers disbelieve.

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