Making IT Happen: Enhancing Teaching and Professional Collaboration via the Internet

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Introduction

This paper was first presented at the 35th Annual Conference of the Australian Psychological Society, The Brain Games, 2000, in Symposium 15, Team spirit: Collaborative projects in the teaching of psychology, jointly sponsored by Pearson Education Australia and UniServe Science.

The focus is on using the Internet and Information Technology (IT) to enhance:

- teaching and learning; and
- collaboration with colleagues in professional contexts.

Figure 1 illustrates the need for a coordinated approach to the development, implementation and delivery of teaching and learning that uses IT. Making IT Happen, requires being With IT, Getting IT, Flexing IT and Linking IT.

Figure 1. Integrated use of IT in teaching, learning and collaboration

The "Year 2000" was marked by ideas inspired by the "New Millennium" and Olympic symbols in Australia. "Beyond 2000" has a cyber-connection in contemporary imagination. The learning curve with IT and e-learning is incredibly steep; with change built into "being connected". E-learning goes together with e-teaching, e-professional development and e-collaboration. The computer has invaded centre-space in my working environment and its many communication tools have radically altered the way I teach and relate to colleagues and students. Concepts of time and space are more in keeping with the "Global Village" as geographically remote locations no longer exclude us from professional opportunities and debates. Ron Oliver's Keynote Presentation at ASCILITE (Australasian Society for Computers In Learning In Tertiary Education) 2000 captured the essence of teaching and learning excellence where the intent and the design are based on contructivist learning principles - with or without IT. Leading educational psychologists advocate understanding human development and cognition as prerequisites for designing instruction and assessment in teaching and learning (Gardner 1996; Perkins 1995; Sternberg and Zhang 2001; Woolfolk 2001).

Adopting IT

On a personal level, working with IT emerged from the need to communicate effectively as an educator and professional colleague. As Course, and core subjects, Coordinator of the Master of Teaching and Graduate Diploma of Education (Secondary) at the University of Western Sydney (UWS), Penrith Campus, the advances in IT have found their way into my professional life on many different levels. Computer literacy is a key issue for teaching and learning in catering for the skills required by beginning teachers in the new millenium. E-learning requires teachers who are computer literate or With IT. Tertiary education beyond the year 2000 must also assume certain standards of computer literacy and IT competency. Ron Oliver's (2000) research at Edith Cowan University into benchmarking Information and Communications Technology (ICT) levels in tertiary contexts is a way forward for Australian tertiary educators.

The Ministerial Advisory Council on the Quality of Teaching (MACQT) was established in November 1995. A key area of concern was the competencies of beginning teachers. The list of competencies "Computer Proficiency for Teachers" produced in 1995 (see Figure 2) illustrated standards of that time.

While many teachers are not equipped with computer literacy at this minimum level, there are additional areas of competency - With IT teaching - directly linked to classroom pedagogies where the computer becomes a major player in classroom dynamics. MACQT skills of 1995 assumed IT was an accessory to teaching and learning, rather than a key to ways of knowing - Flexing IT and Doing IT in today's real and virtual classrooms. The Review of Teacher Education in NSW that followed the disbanding of MACQT in 1999 reports on a wide range of educational issues (http://www.det.nsw.gov.au/teachrev/). Education Network Australia (EdNA) outlines a list of standards for K-12 teaching on the Internet in Australia (http://standards.edna.edu.au/). An indication of the importance of IT competencies in NSW is the announcement in the NSW State Budget 2001-2002 of $137.3 million for IT in education or e-Learning http://www.det.nsw.gov.au/papers/bud2001/welcome.htm.

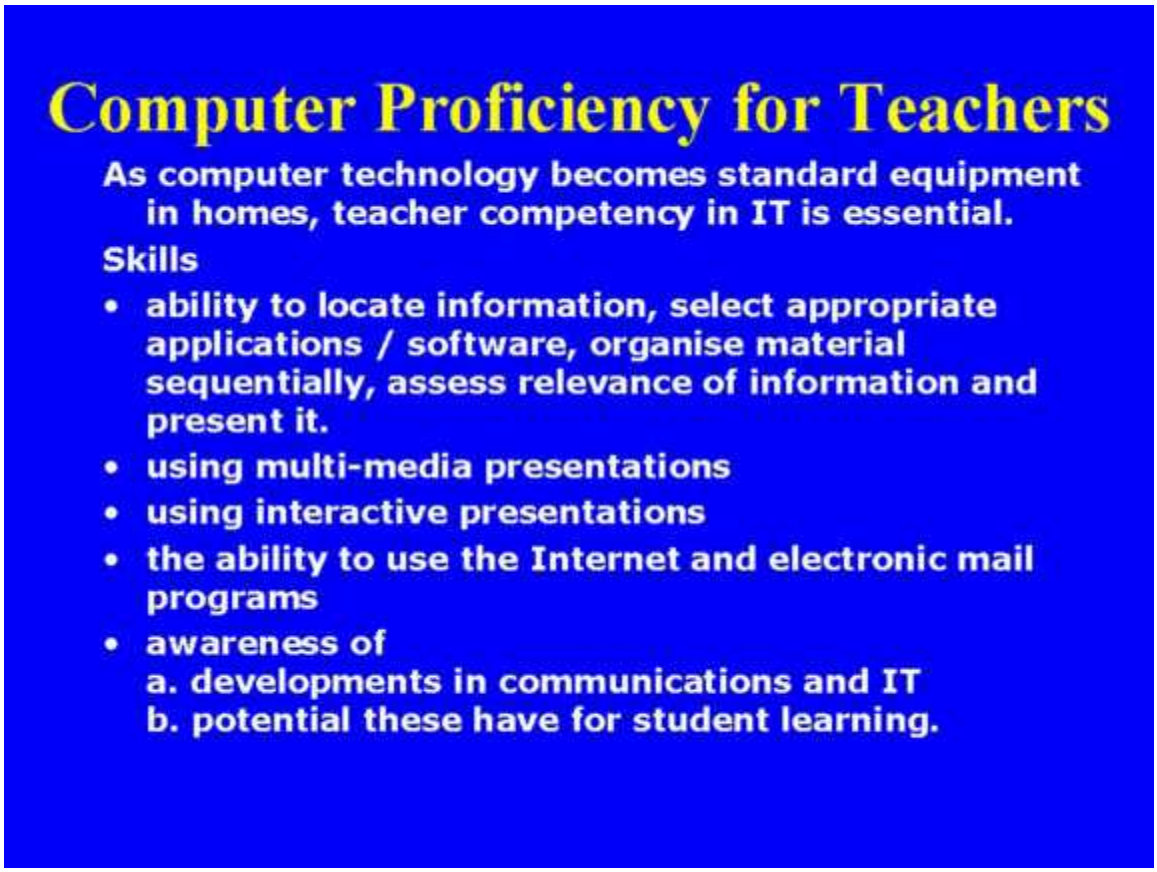

Figure 2. MACQT summary list 1995

The impact of the introduction of e-learning has inspired the imagination to think beyond borders and classrooms in the future. A key question for teacher training, is how and where the teacher is positioned in learning and teaching in the information age. The expert-novice dynamic of traditional instruction has shifted to a more flexible teaching and learning dynamic. NSW students in communities where class sizes would limit choice (if face-to-face were the only option), today can select Higher School Certificate subjects on-line. Students and teachers across the state have access to information from the Board of Studies and other related sites (see 'Links to other sites' on the NSW Board of Studies web site http://www.boardofstudies.nsw.edu.au/). Rural students also have access to Country On-line from the NSW Department of Education and Training web site (http://www.det.nsw.gov.au/).

Getting IT

Having made the decision to use the Internet within my classes, the next task for me was to Make IT Happen. UWS had made a commitment to increasing flexibility of course offerings, IT staff had been appointed, and *TopClass* was adopted to support teaching staff going on-line. However, "culture shock" was part of the initial contact, as IT staff and teaching staff spoke different languages, had different priorities and competencies. Decisions around IT options have changed the culture of university education and education generally. What seemed like an individual decision in the UWS teaching context was actually my first chance at catching a wave

with surfers around the globe. Part of the shift, was learning to work with an "IT mind set" while knowing only face-to-face strategies. In many respects, my teaching had been a focus on lectures and teaching performances followed by tutorials. Gains in IT expertise were provoked by frustration, time delays, pressures on support staff and a keen interest to understand how e-learning works best. The need to express my ideas via an intermediary with IT expertise was often more difficult to translate across our "cultural divide" than to sit down and "play" with available software packages to deliver desired results. My need for information and research into best practice in tertiary IT teaching and learning, resulted in a series of productive coping strategies - membership in ASCILITE, adding my name to the *Blackboard* users list (although UWS initially adopted *TopClass* they are now changing to *Blackboard*) and new friendships/mentorships based on common IT interests.

Modelling IT

Another key factor in Making IT Happen was student mentorship and nurturing IT use at UWS. Government (http://www.detya.gov.au/) and industry groups have published reports on using IT (Lloyd and Hellwig 2000; Victorian State Government Report 2001) which link the "Digital Divide" to socioeconomic status, gender and disadvantaged backgrounds. Research reports and professional groups associated with IT (ASCILITE and Australian Society for Educational Technology ASET) suggest strategies for increasing use and managing change through access and multiple modes of instruction, with IT options embedded in programming. Clearly, my students at UWS belong to categories where it is imperative to model Doing IT as well as structure and nurture Using IT to reverse inequities in IT take-up.

TopClass

I used *TopClass* to structure interaction with students in Educational Psychology core subjects where the aim was to have IT support for face-to-face teaching (lecture and tutorial mode). This option gave space for mutual learning and teaching skills development. The *TopClass* site was used to give students access to the Internet and introduce them to its potential in teaching and learning. The site included - subject outlines, library links, contact with lecturers and tutors, popular web links relevant to teaching and the subject, bulletin boards, evaluation surveys and password protected entry to course materials (lecture and tutorial notes), practice multiple choice questions, announcements, discussion groups, group-linked assessment items, class lists, and evaluations. All students had direct links back to me as subject coordinator. Paradoxically, the perception among colleagues was that my teaching involved less contact and time with students. The reality was that I had made the first blunder, along with many IT-beginners, of making myself available around the clock and feeling obliged to be there for every question that came my way on email. I also loaded the laboratories' facilities with students copying information that could easily be found in the text, increasing student dependence rather than fashioning autonomy and failing to plan assessment strategies coercing students into peer mentorship or team coordinated debate or discussion.

Techno-phobia or fear of surfing

A key problem with introducing IT was getting students to cross real and perceived barriers to IT-uptake. Themes that commonly arose from student feedback, related to a sense of familiarity or alienation depending on student perceptions and experiences with IT. Then there was the "nerd-factor" or general belief, that sitting at the computer is definitely not a feature associated with images of popularity. Evaluations showed that students resisted learning the basic skills, complained about access to computers and would not ask for help if they failed in initial attempts to log on. In reality, computer laboratories had been set up in the university for this purpose and increasing numbers had access at home for games and entertainment, that could become work stations. Course statistics of the number of hits by individual students, showed student use increased and accelerated over the semester. Many slow-to-connect students actually became heavy users of subject sites in the latter part of the semester. The strategy of listing the information that had gone up on *TopClass* in the week prior to the lecture, was an incentive to take some initiative to connect. As I have become more IT aware, read more about what colleagues are doing, and think of ways to put my own favourite strategies into smart IT teaching, the ways I use IT are also becoming more effective. Emphasis at the moment, is on structuring outcomes that require students to engage in discussion, providing structures such as process diaries for completing project based learning, putting up practice questions for examinations and providing information, plus related sites, for authentic individual and group assessment items or simulations.

TopClass to *Blackboard*

Although UWS initially adopted *TopClass* as the tool for course management they are now moving towards *Blackboard*. With the introduction of *Blackboard*, the ease of use (and I suspect, a more IT aware instructor) has resulted in greater satisfaction with the processes and results. Feedback from the course statistics of use, continuous evaluation of the subject and site, students accessing the site to get feedback and discuss issues, or organise their assessment based projects or submit assignments all adds to their familiarity with IT. IT has become part of our ways of working together - we are all actively engaged. Learning has included some smart practices as well as some rules of appropriate conduct or "netiquette". Frequently asked questions are up with answers, while new questions are addressed for the entire subject groups (instead of going back to students individually). As my research into best teaching and learning continues, the habits that I promote are being informed by this quest for Doing IT effectively. It is also sobering to see course statistics on how much time students spend engaged with their subjects outside of lectures and tutorials. Any perception that students are only actively engaged in subject related learning when they are in class is rudely dismissed by the statistics. Access to statistics allows analysis of the amount of time spent on the Internet referring to instructions, practicing for assessment, accessing links, working together in groups, submitting assignments, registering groups for assessment tasks or just checking out the site. The time engaged in subject related activities on the Internet is an indication of academic engagement. At UWS where students often have to undertake employment to support their studies, they then understate how much time they work in order to emphasise how much time they play, it still surprises me how much students are doing for my subjects.

With IT

Throughout my career in teaching, attention to assessment and evaluation has been a major focus. After gaining student participation, the next objective is to link activities on the Internet with outcomes that require higher order thinking skills (McLoughlin and Luca 2000a) and direct application to teaching and learning. A particular passion has been in creative ways to allow students to experience a variety of assessment modes across subjects. Thus, each subject includes different methods of assessment that infuse research, project based learning, role play, multiple choice examinations, case studies, semiotic analyses of media items, teaching performances, collaborative and individual assessment items, literature reviews and awareness of resources on the Web. My preference for authentic assessment tasks (National Middle Schooling Project, Research Circles), to foster links between knowledge and competency in the professional context, is consistent with research findings on best practice (Centre for the Advancement of Teaching and Learning, University of Western Australia) models or Quality Teaching Practice (Talbert 2001). Catherine McLoughlin and Joe Luca (2000b) illustrated this point with an IT supported Problem Based Learning (PBL) design where assessment activities occur in that nexus between the tertiary environment and the work setting.

Figure 3 shows what appears under the assignment button on *Blackboard* for the Adolescence: Teaching and Learning core subject in the UWS Secondary Teaching program. At this point in the semester the final assessment is Youth Expo 2001 so the items related to this assignment have been moved to the top of the "Assignments" page.

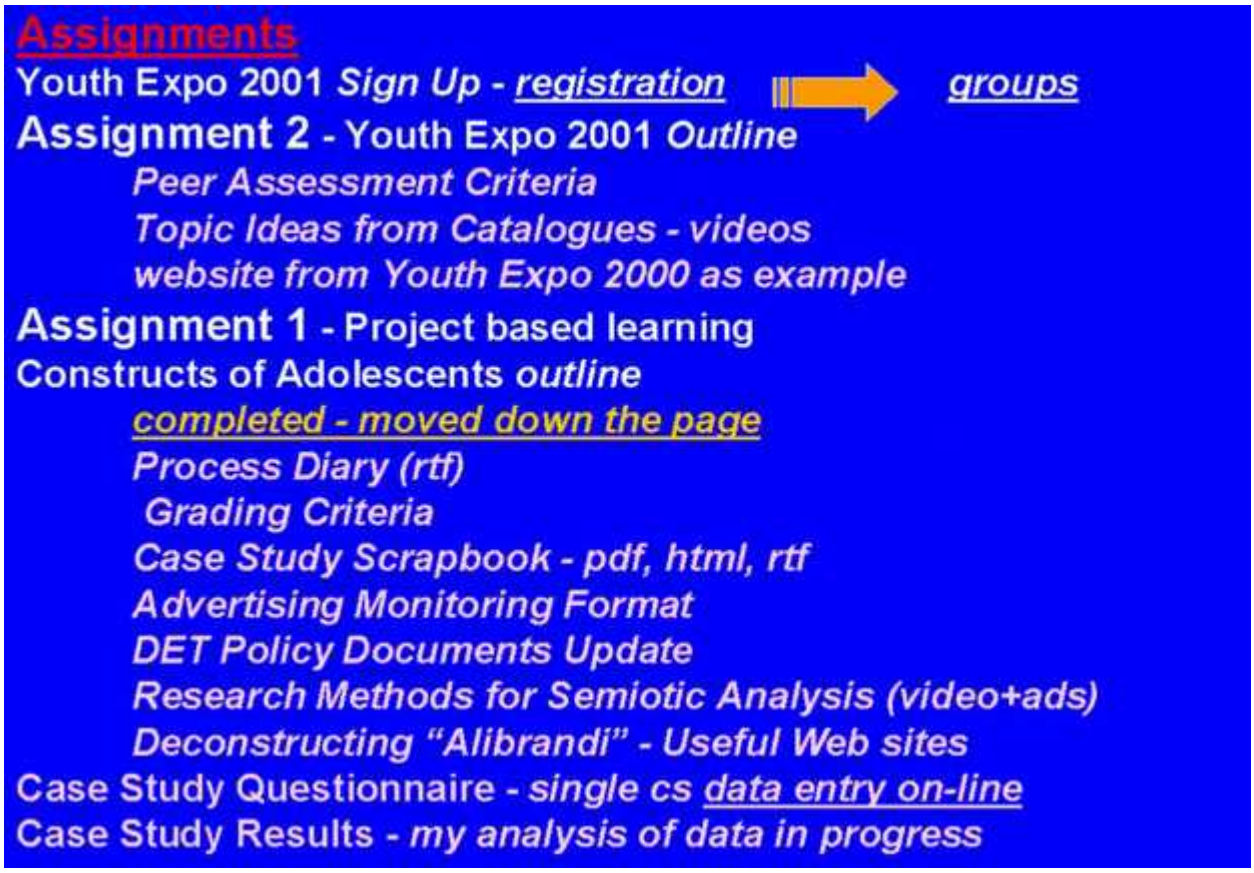

Figure 3. Assignments for Adolescence: Teaching and Learning

Students from several schools and two colleges across UWS campus sites work in groups (with group sites for email, file sharing and discussion) to mount this event. In preparation, some broad organisational tasks have been done on the UWS site: the date has gone up on the UWS calendar of events, a media release has been entered with storyline and all staff have been invited via email. The Board of Studies, Schools on the Net page, was used to email principals to invite senior students from local secondary schools to attend. Students organise themselves into groups, select a topic (using the topics list of previous years, video catalogues and adding new topics), then register their group on *Blackboard* (database). The peer assessment criteria are placed on the site so all students are aware of the expectations and can prepare for the task. Under the Tools/Tasks buttons, students submit a brochure-type document which would be distributed to visitors to their YouthExpo (real time) site.

This authentic assessment activity provides students with an opportunity to use their understanding of young people to get messages across to them about contemporary issues. "Announcements" are used to keep everyone up-to-date with progress and where particularly important information needs to be acted on, an email to all users is used under "Communications". As "Announcements" is the first page that students encounter, directions to new information of tasks are given - such as sign-up, drop-off, or useful updates of related web sites and reference lists.

Other forms of assessment include the Cocktail Party, in a subject called "Nurturing the Creative Intellect", where students study the biography of an "Expert" then stay in role for two hours at a simulated conference cocktail party. In another subject, Creating Learning Environments (CLE), students use their IT skills and awareness of motivation in learning to present at the CLE conference. In all assessment tasks there is support for organising these real time events originally on *TopClass*, and now *Blackboard*.

Accountability

In addition to the teaching and learning appeal of IT as an effective mode of subject delivery at UWS, it has also been very helpful in dealing with the formal student appeal process. In a recent meeting of the Appeals Committee investigating students' written applications to appeal grades in my subjects, it was helpful to supply information disputing the claims made by students in so comprehensive a fashion. There is a new level of accountability beyond ticks against names on a roll of attendance. In a particular case the log printout showed that the student in question had only logged on once to do practice questions <u>after</u> the examination was over. In another case, a student complained about a lack of information and instructions. Again, I could review the log and point out that this student had not accessed the pages in question or made use of the process diary to assist with preparation (even though the same information had been repeated in the lectures and tutorials). IT has definite advantages when it comes to objective measures of student engagement and I suspect this brutal aspect of IT-surve(y)illance now motivates some students. Fear of being identified as an infrequent user, or inefficient user, in the appeal process may be another powerful motivator to connect or get with IT. What is appealing here, however, is that once engaged, students learn from each other and a dynamic of engagement has very positive implications for teaching and learning beyond the time frame of the subject.

Linking IT

Recent areas of interest include administrative roles in course coordination, coordinating and teaching core subjects in Educational and Developmental Psychology, as well as playing an active role in the International Council of Psychologists (ICP), Continuing Education Program for annual conferences. There is hardly a conference or an academic not linked to the Internet. However, psychologists may be linked, but not exploiting the power of the Internet for collaborating with colleagues on many different levels.

Linked to communities

Student groups in core subjects in the Primary and Secondary programs have assessments designed to display cutting edge teaching and learning strategies to the community. The placement of assessment activities in the vortex of university learning and communication to peers, students and teachers from local schools and tertiary staff is an effective design for core outcomes for teachers in training. The publication of a site based on the assessment tasks, leaves a legacy for incoming students as well as a site that can be used for various teaching and learning opportunities, education promotion and communication purposes. Students resisting IT take-up are enticed by the availability of images of friends and colleagues on the site ... and few can resist logging on to see their own image on the Internet. In a community like ours' at UWS, these images are shared around the globe with family connections. In many instances, the student in the frame is the first of a family to attend a university, so the message communicated goes beyond the narrow concerns of assessment in teaching and learning. The impact of these simple images is hard to quantify in hits alone.

Search engines and the comfort of your computer setup allow introductions to people with common interests in learning, teaching, research and professional associations. The familiar advertising for Internet dating services can be modified to accommodate our professional links and services for productive professional development now that borders are no barrier to communication and involvement in relevant professional organisations. Sites for professional bodies, universities, libraries, conferences, publishers ... around the world invite access. There is a virtual information explosion with academic synergies at your finger-tips - so virtual classrooms, virtual meetings, applications procedures, reviews of workshops or any other professional organisation functions are quite within our grasp.

International Council of Psychologists (ICP)

From where I sit, colleagues from around the world seem no further away than those down the hall. In many instances the appearance of names of professional colleagues on the email list evoke excitement or tension depending on the state of play in a project or program. As I wrote the abstract for APS (2000), I was organising the Continuing Education Program for the ICP, in Padua, Italy with friends/colleagues from USA, Canada, Singapore and Israel, all the while, encouraging colleagues and members of ICP to participate. The following example from the ICP illustrates the breaking down of barriers to professional international involvements. IT access has meant that a colleague in Brazil could nominate me for a position on the ICP Executive, followed shortly after by receipt of a note of congratulations on that nomination from the

President in Melbourne, and within minutes, receipt of a proforma for entering key ideas for my election platform from the Secretary General in New York. Without much of a pause, it was back to work on the Continuing Education Committee when a Canadian colleague forwarded a workshop proposal to review. It was truly an "International" Council of Psychologists at work on the Internet, where it has formerly been a rotation of participation around the globe. Of course, there is still a rotation, but the sense of inclusion is fashioned by virtual connection of functionaries.

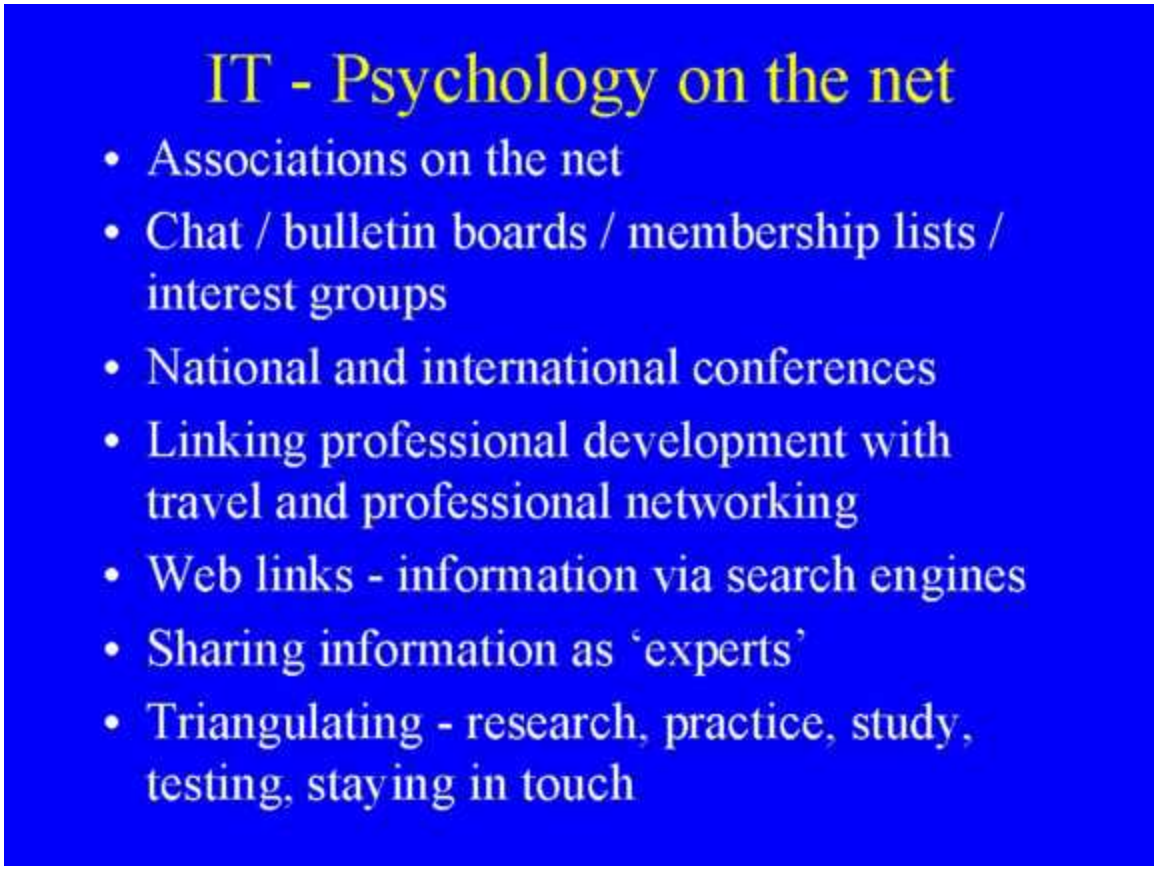

Figure 4. Psychology on the Internet

Conclusion

Images of students involved in innovative assessments using IT and diagrams of subject design shown in the presentation, increased awareness of how student interaction and professional development was aided by IT. Add to this, many areas where psychologists benefit from Making IT Happen and where they might Flex IT or Link IT to their professional worlds. The networking possibilities are endless. Our challenge is to encourage Using IT effectively for professional development in tertiary education and organisational change. Living in Australia is no excuse for staying on the sidelines when active involvement is virtually at our finger-tips.

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