I would like to sincerely thank Caltex Australia and the Rotary Club of Sydney for sponsoring the 2002 “Innovation and Excellence in Teaching Award”, this award made it possible for me to conduct a study tour of the USA, Europe and Asia. I would also like to thank the following people and their organisations for their support and assistance, without which much of what I have been able to achieve in my work and on my study tour would not have been possible: The VET Directorate; the DET Awards program; the Minister of the Department of Education and Training, Dr Refshauge; Wayne Parkins (DET); Futurekids (Steven Berger); Microsoft (Felicia Brown); and from Apple (David Allibon and Junior Tan).

This ICT and education study tour was of a four week duration during November 2003. I was able to spend a week in each of Los Angeles, Seattle, Barcelona and Singapore.

My Context
I am the Head Teacher ICT, VET as well as Computer Coordinator at Kingscliff High School (KHS), a public school within the NSW Department of Education and Training (DET).

In 2002 -2004, I and my school were fortunate to be selected for the following awards/projects:

- 2002 “Award for Innovation and Excellence in the Vocation of Teaching” Caltex Australia and the Rotary Club of Sydney.
- 2002, KHS’s NSW Director General of Education Award for “sustained improvement”, ICT was the cornerstone of this award.
- 2003, Tweed/Ballina District winner and State finalist for Vocational Education and Training NSW “VET Teacher of the Year”.
- 2003, in partnership with Melbourne University showcased our ICT program to the International Conference for School Effectiveness and Improvement (ICSEI).
- 2003, Major award winner, National Awards for Quality Schooling (team of Principal David Walshe and Guy Wright, Figure 1).
- 2004, KHS showcased as the example to follow, by National Quality Schooling Framework in its prospectus. (KHS’s ICT research strategy sent to all schools in Australia as a best practice application model). KHS was also selected as one of 25 schools across Australia to act as focal point for the Australian Governments vision of helping schools to attain quality schooling.

Figure 2
Overview of study tour

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<th>Los Angeles</th>
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<td>Huntington Park Elementary Baptist School</td>
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My study focus areas are firmly linked to the stated priorities of the Federal Government, the NSW DET and our school. These are:

- The NSW Department of Education and Training document “Strategic Directions 2002-2004”, clearly presented the priorities for the work of public schools over that period. Key amongst these were the enhancement of teaching and learning; literacy; numeracy; use of ICT; vocational education and workplace skill development opportunities. Schools were given the responsibility of transforming these strategies into actions to ensure improved learning outcomes.

- Our school development plan clearly states our commitment to ensuring that our students have well developed ICT skills to meet their educational and vocational needs. Our strong and active partnerships with major international ICT enterprises and local industry, has given us a reputation as one of the leaders amongst NSW schools in ICT skill and course delivery to our students. Online learning will become a major additional focus for teaching and learning at KHS in the coming years.

- Kingscliff High School students are all given the chance of success as we deliver special, leading edge, compulsory and elective courses, to ensure they can use ICT, confidently, creatively and competently to school and industry requirements. (The compulsory Year 7 ICT skills course ensures all students have the ‘base’ ICT skills that will enable them to integrate their skills into their work right across the school in all learning programs. The special elective courses (9-12) cater for those students requiring very high order ICT skills or those seeking careers in ICT and related fields).

- Outstanding teaching is necessary if we are to achieve our targets. A comprehensive, well funded, whole school staff development strategy is in place at our school, producing impressive, ongoing, upskilling of our teachers. Our school based research (done under the NQSF program) confirmed worldwide research findings that teachers must be highly skilled and confident ICT users if they are to be able to integrate ICT into teaching practice.
Los Angeles

- Hollywood High School

**Context:** This school was chosen at random. I wanted to gain an overview of the education system in the USA. Besides Marilyn Munroe went to school here!!!!

**Observations:** 3000 students attend the school. As expected there was a quality Creative and Performing Arts program in place. There are three schools operating throughout the school calendar year and an adult education school that operates late in the day. The school never closes for extended holidays and operates all year round. This is a very efficient use of resources. **Appendix 1** shows the year round instructional school calendar. The school has approximately 600 computers (50% are Macs). One class I observed was a computer graphics class, where all students were actively engaged in high end graphics work. Obviously the ICT staff are highly skilled. However as with Huntington Park, a fair proportion of other staff lacked the skills to effectively integrate technology into their classrooms. In every classroom throughout the school there were between two and eight computers that were provided to facilitate the integration of technology into classroom practice.

**Significance and relevance to education in Australia:** A well resourced school, more Professional Development in IT was required. Most Australian schools (when you consider the three schools operating) would not have access to the same amount of technology as Hollywood High. Similarly the integration of technology into the curriculum in Australia is at the same stage as Hollywood High.

- Huntington Park Elementary Baptist school

**Context:** Huntington Park was identified by Futurekids as a school that was successfully implementing Futurekids ICT materials into their school. The school is a private elementary school catering for students from K-8. Currently there are 140 students enrolled in the school. They teach the Futurekids material via a withdrawal system. Mr Weaver the IT teacher demonstrates a high degree of expertise in IT. He is highly motivated, having just returned from the International Futurekids conference held at Hollywood the week before I visited his classroom. The school has 18 PC’s in one lab and 2 PC’s in each classroom. Internet access is via a 2mb link.

**Figure 3: Hollywood High**

**Figure 4: Huntington Park Elementary Baptist school**
Mr Weaver aims to teach technology via the structured Futurekids materials. In 2004 he will introduce the online Futurekids material as well as the integration kits into other Key Learning Areas (KLA’s).

**Significance and relevance to education in Australia:** Huntington Park values highly the Futurekids materials as the basis for building a sound foundation for years K-8.

- **Futurekids, Longbeach**

Futurekids (Jay Williams) has updated their courseware with an online environment. This is a step in the right direction. Futurekids have developed an online learning platform that has combined the best features some other online developers (eg epals) and have incorporated a special teachers lesson builder that helps teachers to make up lessons and add assessment standards directly into the lessons (this is very important in the USA). According to Futurekids, class sizes throughout the USA are approximately: k-3 20; 4-5 30 to 35; 9 20; 10-12 45.

**Significance and relevance to education in Australia:** Futurekids have established a strong professional development alliance with Microsoft and Dell. They are part of the Partners in Learning Microsoft Program.

**Seattle**

- **Seattle Public Schools District Office**

**Context:** IT support for Seattle schools employ 20 roving technical support persons. Their role is to support the technology in the schools. All schools are connected by fibre, full fibre to high schools and equivalent T1 to all primary schools. Currently they have one tech for every 850 devices. Not all PC’s are covered by Norton Antivirus as yet. They use HEAT software for call logging. It looks great. Cost $20000 and 25% each year for support and upgrades. There are 17000 PC’s in the district. Students number 47000, there are 10 comprehensive high schools with between 750-1800 students. **Vocational education** consists of four major strands: Consumer Science or Home Economics; Shop or Technical wood / metal; Biotech and Business (including Cisco, Oracle and A+). Four years ago Seattle schools district trained 10 teachers to deliver Cisco courses, the problem they now have to deal with is the cost of replacing the switches in
the classrooms as the latest course requires a new style of switch. There are 100 Vocational teachers across the district.

Significance and relevance to education in Australia: Vocational IT education in Australia is currently undergoing change. It is important to ensure that our system provides the best opportunities for our students. Vocational IT students exiting our High Schools can easily be provided with industry standard qualifications in IT.

Ballard High School

Context: Ballard High School is a relatively new school, it was reconstructed in the last five years after a fire. This school was identified by Seattle Public Schools District Office as a leading IT focussed school. It had some very innovative programs in place. One such program was the Computers for the World Program run by Teacher John Keetly. Local Rotary clubs and businesses are also proud members of this program. John’s team of students rebuild obsolete PC’s adding components where appropriate, ensuring they are in a satisfactory working condition. John’s team, then fly the refurbished PC’s to isolated underprivileged remote schools, set up a network and help train teachers and students to effectively manage their new computer network. Last year John’s team provided PC’s to remote areas of Belize and this year intends to do the same in Guatemala. The students also work out the most appropriate programs that would be most beneficial for the students. The social learning aspects of this program are outstanding, not to mention the IT support skills and the soft skills development of the students involved. The publicity for all concerned is excellent. I was lucky enough to go with John when he was to address a new group of students that would be planning to go to Guatemala later this year. The commitment from both the staff and students involved was exceptional.

Many areas across Ballard high school had access to high end technology. Not only in the dedicated computer labs but also in the Library, the Video production room, the Art rooms and the Journalist room. The Science staff are working very closely with Washington University and as such had use of donated technology. The touch screens and the flexible water tolerant keyboards were used extensively with data loggers. This school was well on the way to integrating technology effectively in most areas across the school. There were 600PC’s in the school.
and a large number notebooks for staff use. They did not have an enterprise agreement with Microsoft and were running Windows 2000 on most PC’s. John was very interested in Kingscliff High schools teaching through the Microsoft IT Academy and will possibly move down this path. He had taught over a number of years the A+ course to his students and felt it was very positive for his students.

**Significance and relevance to education in Australia:** Access to new and emerging technologies was seen as a priority across this school. The school was well on the way to integrating technology across the curriculum. This was a forward looking school and was effectively led by educators who valued the role technology should play in enhancing the learning of all of its students.

**Specifically, for Kingscliff High:** KHS will now move toward including the A+ accreditation within our technology courses. It is achievable and is an internationally accepted credential. It will give our students a sound platform upon which to firmly build our Microsoft accredited courses. Like Ballard High School, the encouragement and support of all teachers’ use of technology will remain a high priority at KHS. A special program is being developed at KHS to deliver hardware skills and computer ownership/internet access to our Aboriginal and Torres Strait Islander students. The project will be very similar to John Keetly’s Computers for the world program. Thanks John!

- **Cleveland High School**

**Context:** An innovative school structure.

Deputy Principal Ryan Stevens. “This school is not an academic school. Our results over the past few years are somewhat below average. We decided to divide the school up into four mini schools, each with a different focus. The individual schools focus areas are: Information Technology; Arts and Humanities; Health and Environment; and Life and Global Studies”.

“Students elect which minischool they wish to attend. So far the numbers have been fairly equal. Each minischool is responsible for all subjects, they will be allocated one Maths and one English teacher etc. All schools do some IT, but the IT specialist school has IT as its main focus. Like Ballard High School, students gain industry standard qualifications like the A+ qualification in year 12. This school applied for and was successful for a Gates grant of $1.3 million over 5 years. The program needs to be self funding by then. This is an interesting concept, with obvious benefits for an underachieving school”.

**Significance and relevance to education in Australia:** The relevance for the A+ credential in IT is also considered important at Cleveland High. There has been quite a deal of research into the various school structure models. This one is appropriate to this “currently” underachieving school. With positive school leadership and by providing a positive learning environment this school will only improve.
**Microsoft, Redmond**

This was one of the highlights of my trip. Two of the senior education executives from Microsoft: Michele Schimmelpeneg and Greg Butler shared an afternoon of their time. The future of the Microsoft IT Academy program and its impact on schools like KHS was a very important component of these discussions. It was great to be able to see and hear first hand the new directions of the Microsoft Educational strategy. Hopefully this meeting will further strengthen the ties that KHS has with Microsoft in Australia. KHS is currently trialling some of Microsoft’s key educational applications. I am sure that these trials will benefit the students at KHS and students from across the country.

**Significance and relevance to education in Australia:** Microsoft has many leading edge educational initiatives that operate worldwide. Microsoft’s research and commitment to education is to be commended. Greg Butler extended my vision of where IT and education should be heading by sharing his vision. Much of which can be read in such documents as “Learning for the 21st Century”, “The Mile Guide for 21st Century Skills – Milestones for improving learning and Education” and Microsoft’s own White Paper “Educating the 21st Century Citizen”. These articles are a must to read for any serious educator.


**HELP Hollywood Education Literacy Project.**

**Context:** This non profit international organisation in my opinion is a world leader in helping students with learning difficulties. I was very impressed with both the professionalism and the many outstanding resources that they use to help those students who need it most.

**Significance and relevance to education in Australia:** I have developed a close link to this project and will endeavour over the coming year to integrate some if not all of these teaching methodologies into KHS’ literacy programs. This site is a must to visit for any remedial /literacy educator across Australia [http://www.helplearn.org/index-flash.html](http://www.helplearn.org/index-flash.html)

**Barcelona**

**Barcelona University:** Barcelona was exceptional. My contacts proved to be outstanding. Dr Juana Maria Sancho Gil (Barcelona University, Head of Research for Schools-Plus and also Spain’s representative on the European Community's ULearn Project) and Dr Fernando Hernandez (ex Vice Chancellor Barcelona University). On my second day in Barcelona I was invited to observe the rollout into their first school of "Microcosmos" an Elearning platform that is the key element in their Schools-Plus European research project. The platform is being rolled out across Europe. They are also working on a project called ULEARN which also runs across many of the European countries.
This project identifies "Pioneer Teachers" and hopes to engage these teachers to integrate technology throughout their curriculum. I had dinner at their house and discussed in detail my work at Kingscliff, they were very interested in the industry partnerships that we have formed and in particular the Microsoft IT Academy Program.

**Significance and relevance to education in Australia:** Both projects are very relevant to Australia. These projects will directly affect KHS and possibly have implications across Australia. Juana and Fernando are hosting the 2005 International Conference for School Effectiveness and Improvement conference (ICSEI) in 2005 in Barcelona. They have asked me to identify a possible keynote speaker from NSW DET (a policy maker). There are usually about 1000 delegates at this conference. They are just setting up the website [http://barcelona-iese2005.org](http://barcelona-iese2005.org). More details on Barcelona are contained in the second part of this report.

**Singapore**

- **National Junior College (NJC)**

**Context:** The NJC is a selective college. Throughout Singapore all schools and teachers are ranked annually according to their academic achievements throughout the year. For this reason many schools have to compete for students. Some see this as very positive. One cost is the lack of initiative to share quality resources. Technology is a very important component of their teaching programs. For example: the NJC spent over $300,000 in setting up its own Elearning platform. They have had a few issues in extending the capabilities of this proprietary platform. NJC is a leading ICT focussed college, with many cutting edge ICT programs in place. Very impressive.

**Significance and relevance to education in Australia:** ELearning is an important tool that should be used effectively to add to the educational opportunities of all students across Australia and wider. We must be very careful not to get tied into a platform or technology that we cannot quickly and easily modify as the need arises.
• Canberra Secondary School

**Context:** This secondary school is located in a less affluent part of Singapore. The Principal is a very forward thinker and has introduced many innovative methods of integrating technology into the educational processes of the school. The school has won many national awards for their work in IT education and is featured occasionally on news segments on National Television. They have partnered national and international companies. One helped them to introduce a smartcard technology that not only ensured accurate roll marking but also introduced a cash less school canteen. Other innovative projects included the building of programmable boats and cars that were operated on a pond and racetrack that the school had built. They have partnered with Epson to achieve the world’s largest collage, the money raised went to a community based project. They have achieved national recognition for their Video project work. Truly a case where innovative leadership can enhance the educational opportunities the students across the school.

**Significance and relevance to education in Australia:** *Industry partnerships* and positive publicity can be used as powerful tools to move a school forward. Industry partnerships are essential for any forward looking school, the opportunities are awesome. In Australia, the importance of positive images in our media is essential, especially for our public schools. We need to advertise all the great things that are occurring in our schools on a daily basis. The Singaporeans love their technology and education. It is much easier for them to place materials in prime television spots. We need to look more closely at these opportunities in Australia.

• Raffles Girls School

**Context:** Raffles Girls School is a centre of *excellence in technology*. It is an exclusive private girls school. For example- three years ago one classroom had $1.6 spent on technology and an upkeep bill of $70000 per year. The rooms capabilities were awesome.

Most of their online programs are Microsoft based and include Sharpoint Portal server and Class server. This was a very good opportunity for KHS as we
also run Sharepoint Portal Server and are now in the process of introducing Class Server, Raffles are only too willing to share class server educational resources that they have built up over the past couple of years.

**Significance and relevance to education in Australia:** One of my main of this tour was to set up a sharing relationship with some of the leading schools across the globe. Our relationship with Raffles girls high will hopefully be a great starting point.

- **Meridian Junior College**

  **Context:** The Singapore Ministry of Education invited me to attend an inservice day at Meridian Junior College. It was an excellent day and I was able to see first hand where Singapore was in its endeavours to integrate technology into their curriculum. All sessions were showcasing the integration of technology best practice from across Singapore.

  **Significance and relevance to education in Australia:** It is very important to have a medium to share good ideas and best practice. Singapore has a natural advantage in communication, as the island is very small indeed. In Australia we need to use technology to cut down the distance barriers. The National Quality Schooling Framework (NQSF) and the National Awards for Quality Schooling (NAQS) programs are working toward this goal. More needs to be done!

- **Australian International School Singapore**

  **Context:** This school visit was excellent. The NSW syllabus is delivered to international students at this school. They have many excellent IT resources and encourage both staff and students wherever possible to use the new technologies. They use an IP telephony system throughout the school. Michael Eggenhuizen, the Director of IT, produces a glossy monthly brochure outlining the new technologies to parents and the community each month. This is funded by local and national IT companies.

  **Significance and relevance to education in Australia:** A positive image of the school IT and its achievements is an important aspect of education in the 21st century. The position of a full time Director of Technology and two full time technology assistants ensures the school is moving forward with technology and at the same time their current resources are being fully utilised. It is important for schools to have a suitable person in charge of IT at each school and also for that person to have a vision for the future.
• Apple Singapore

**Context:** I spent the morning with one of the Apple senior Software Engineers, Junior Tan. I wished to achieve the following by this visit to Apple.

• Look at the new technologies that Apple were developing.

• Gain some up to date networking teaching resources for KHS’s Certificate III in Network Administration Course to supplement the Microsoft Official Curriculum that was being used to deliver the course.

• Understand and study the new Unix based apple environment.

• Assess the current and future directions of Apple and education

• **Significance and relevance to education in Australia** The teaching resources that were given to me were excellent and will form a part of our teaching programs at KHS. With Apple moving into System 10 and having a Unix base to the operating system, more control of the operating system is available. The programming that will be taught at KHS will now be supplemented with an Apple flavour. Apple have always valued their education market. Their current technologies and their future directions have education at the forefront. Very impressive Apple! Thank you!

• **Ministry of Education (MOE) Singapore**

**Context:** My visit to the MOE was also very exciting. I had a long meeting with Betsy Lim Hai Boey (Deputy Director Professional Development and Consultancy Branch Educational Technology Division of The Ministry of Education (MOE)).

The next day after our meeting the MOE invited me to attend a professional development day designed to specifically to integrate technology into Singapore's curriculum. This is the next part of their Master Plan 2. All head teachers from Singapore, including all IT based Head Teachers were in attendance.

**An interesting story:** It was interesting to note that when the Head of IT (MOE) spoke to the masses, he left 30 mins for question time. (Situation: The MOE are trying to move the Head Teachers IT into more of a people managers role, in order to help integrate technology). One Computer Coordinator
asked...We have 300 PC's, you supply only one technician, with our new roles we cannot now fill the gap (1 technician to 150 PC's). The head of IT thought, and then suggested that the MOE were looking at introducing a Microsoft Windows Networking courses into schools to train students, the students would gain Microsoft accreditation and as part of their course, help run the networks. Betsy turned to me and said "This was from speaking to you yesterday". Since my return, Betsy has already emailed me and wishes to keep in contact.

**Significance and relevance to education in Australia:** We can learn quite a deal from Singapore. The MOE is very keen to keep abreast of what is happening in Australian education circles. We can only both benefit from international cooperation.

(Study Tour- Focus Areas discussed over page)
STUDY TOUR – FOCUS AREAS

The main focus areas of my study tour research were:

- Integrating technology.
- Online learning communities.
- ICT and Vocational Education, methodology and content.
- Leading ICT enterprises current practices and future ICT developments (implications for education).

Focus Area 1
Integrating Technology

California:
The state government has spent huge sums of money on hardware and software. Their problem is that their provision in the USA is ad hoc, The schools cannot plan what they need/want to do. This is because the funding is tied up in the politics of the state. There was a lot of talk while I was there of not knowing how much the government would be able to put into technology and education in the coming years, due primarily to the current fiscal constraints of the state budget. At least in NSW we know what is around the corner as regards hardware and software.

Examples; At Hollywood High the IT teachers were highly skilled and there were sufficient computers to effectively teach the computing courses and to begin to integrate technology into all classrooms. Each classroom was cabled and had internet access. However most classrooms had their 2 – 8 computers idle in the corner of the room not being effectively used. Professional development and integration of technology techniques would be the next important step.

Seattle:
The schools had similar amounts of technology compared to California. Those schools lucky enough to gain a Gates Grant (did very well indeed). The Seattle Schools District was coming to terms with basic infrastructure issues. Eg email between schools was not happening, all schools had WAN access but with only 20 support personnel to cater for the whole district? There were some difficulties with support. Integration of technology was intermittent. Some classes had very capable and IT “savy” teachers, there were classes that were effectively integrating technology into the curriculum. The Science teachers at Ballard High for example, with help from Washington State University, had set in place some very forward thinking programs, the science teachers use technology effectively with data loggers and touch screens to enter the data in most classrooms.(have a look at the keyboards).

Barcelona:
There were some very ingenious plans to integrate technology across the curriculum (ULearn project and the Schools-Plus project). My visit to Barcelona was exceptional. My contacts proved to be outstanding, Dr Juana Maria Sancho Gil (Barcelona University, Head of Research for School Plus and also Spain's representative on the European Community's ULearn Project) and Dr Fernando Hernandez (ex Vice Chancellor Barcelona University).

The Ulearn project is an ambitious project that will build a European lifelong learning system based on ICT in education for Pioneer Teachers. Basically, throughout the European Community, Pioneer Teachers have been identified. Pioneer teachers are teachers who “are keen to use ICT in their classroom and professional activities.” Pioneer teachers are the early adopters of ICT innovation in education. They play a key role in the diffusion of innovation, since the majority of teachers learn about new ideas from their peers via interpersonal channels. The Ulearn project has defined the identity...
of a pioneer teacher. This definition provides a basis for both certification of their role as innovators and for their development of learning processes addressed to their professional development.

This project has selected “Pioneer” teachers across Europe, it has networked these teachers into a loose partnership with a two day inservice course in Italy, The project has provided a ULearn internet platform for sharing across all European countries.

The role of the ULearn project is to:

- mobilise the educational and cultural communities;
- to harmonise policies of the member states of the European Union in the field of educational technology;
- to train European teachers in digital technologies;
- to develop European educational services and software; to speed up the networking of schools and teachers and to share Pioneer teachers experience.

The main outcomes of ULearn are to establish:

- a European syllabus for Pioneer Teachers, to be used as a tool to certify the competencies of Pioneer teachers and to develop a core of learning activities which can be adapted and used throughout Europe;
- a prototype system which shows how a community of pioneer teachers can be supported both at national and European level by means of learning, information and cooperation services;
- embryonic pioneer teacher communities at national and European level which can be enlarged and made sustainable by means of suitable national and European policies.

Singapore:

Under Singapore’s Master plan 1 (1997), $3billion dollars was injected into educational technology. This achieved a sound infrastructure and placed much hardware and software into schools eg. there is a data projector in all classrooms. Because of the large class sizes, Singapore delivery techniques in high schools have traditionally tended toward the lecture style, this is particularly prevalent in the Junior Colleges. Meridian college has at least 5 lecture theatres for large groups of students. In 2003 the MOE released their master Plan 2. The main feature of this plan is to integrate technology across the curriculum. The slowing of the Singaporean Economy has forced the MOE to significantly reduce the budget for this project.

I was lucky to be invited by the Ministry of Education to attend 1 of 4 days inservice training for all of the head teachers from across Singapore. The prime focus was the integration of technology “best practice”.

Here the Ministry of Education combined presentations from the best examples of integrating ICT into the classroom. It was also an opportunity for the head of IT to address on a personal basis all educational leaders of Singapore. I attended many sessions geared around best practice for integrating technology into the curriculum. The use of hand held technologies in the classroom was particularly interesting.

Singapore now faces the similar challenge as do most western nations, how to ensure that technology is being used to effectively to increase student learning outcomes in the classroom. Singaporean educators stressed on numerous occasions, that technology should not be used for technology sake, but should be used only where it would enhance the students learning (this is the true value of integration of technology across the curriculum).
Focus Area 2
Online Learning Communities

USA:
Each school district in the USA is autonomous, therefore the online learning communities differ greatly, depending upon which part of the USA you visit.

In California, the schools I visited had their own internet space, however it was not used to their full potential. In Seattle, the Seattle School District is still coming to terms with emails for all students and the many varied associated issues.

My school (KHS) has developed an educational partnership with Futurekids Australia. We have been co-developing their courseware to suit NSW schools. KHS has embedded this material into a Computing Foundations course taught in Year 7. This partnership enabled me to spend some time at Futurekids in California. Jay Williams from Futurekids (USA) has developed a high quality online learning platform by interconnecting many different components eg. Epals. This internet platform also had the added requirement in being able to map directly the learning outcomes of the educational programs. Futurekids is working with Microsoft, Dell and others to deliver quality ICT training and professional development to schools across the USA. This partnership places KHS in a good position to monitor, develop and evaluate these new and exciting directions.

Barcelona:
Fernando and Juana showed me in detail their exciting Schools-Plus program. http://schoolsplus.org This European Program centres around an Italian company that has developed an internet learning collaboration platform called “Microcosmos”. I was very fortunate in that the time of my visit coincided with the rollout of the second edition of the Microcosmos to the first school in Barcelona. I was able to observe first hand the problems/vision/direction of this impressive project.

This platform combined with the European Communities ULearn project could provide a cornerstone for future online learning aspirations. Security issues and issues with the developer of the software platform were two of the major concerns.

The team from Barcelona were exceptional. I learned so much form working beside them for two days. The school visits were outstanding. The usual Barcelona hospitality was unbelievable. We spent many hours socially discussing the future of ICT education across the globe. Juana and Fernando were impressed with KHS’s industry partnerships and the ability to deliver State, National and international qualifications to our students. They have asked me to identify a possible suitable keynote speaker from within the DET (they want a policy maker), to address the upcoming 2005 International Conference for School Effectiveness and Improvement (ICSEI) conference which they are hosting in Barcelona.

Singapore:
Singapore was at one time the world leader in online learning portal software for schools. My time in Singapore was outstanding! 18 months ago, half of the schools in Singapore used the Postkid Elearning portal platform on a daily basis. The platform was sold to Horizon.com, sadly they did not have the educational background to effectively support the platform in schools and to adapt to change. The MOE has two new software programs it has provided to schools.

My guide during my stay in Singapore was Million So, the original owner of the Postkid platform. She has been involved in IT in schools for many years. Million knew personally many of the Principals across Singapore and members of the Ministry of education (MOE).

Million introduced me to many educational organisations across Singapore including the National Junior College (NJC).The NJC had recently invested $300,000 in developing their own ELearning platform. The platform is well put together and addresses most of the needs of the schools 2000+ students and staff. After putting the project out to tender, a group of past students won the contract to develop the learning platform. It was built using open source code, the code would remain the property...
of NJC. The school now wishes to upgrade this software and add some new features. The original developers built the platform at a loss. The school is about to put the upgrade process out to tender and it could prove quite expensive. They are somewhat locked into the original developer. One problem I see with the Singaporean system is that each school and each teacher for that matter is judged and ranked annually. This seems to ensure that there is only a limited amount of sharing of resources.

The Raffles Girls School is a centre of excellence in technology. It is an exclusive private girls school. One classroom had $1.6 million spent on it 3 years ago, and an upkeep bill of $70000 per year. The rooms capabilities were awesome.

Most of the Raffles Girls School online programs are Microsoft based and include Sharepoint Portal Server and Class Server. This was a very good opportunity for KHS, as we also run Sharepoint Portal Server and are now in the process of introducing Class Server, Raffles are only too willing to share class server educational resources that they have built up over the past couple of years.

Note: One of the main goals for this trip was to endeavour to set up a sharing relationship with some of the leading schools across the globe. Our relationship with Raffles girls high will hopefully be a great starting point.

Focus Area 3
ICT and Vocational Education:

In the Seattle Schools district ten teachers were trained to deliver the Cisco Academy courses. This is a high end internationally recognised industry standard networking course, similar to those included in the Microsoft IT Academy program. The course however now requires updated hardware to run the course. I visited Ballard High School and they were not going to deliver this course in 2004. They were however going to deliver the A+ course. This is very interesting for Australia. KHS is now looking very closely at also delivering the A+ course beginning in year 10 Computing Studies and completing it within the Certificate 111 Network Administration course by the end of Year 11.

Ballard High School in partnership with local Seattle Rotary Clubs run a program called Computers for the World, where the VET class and a school interest class, gather donated computers, upgrade them and then fly them, as an excursion, to places like Belize and Guatemala. Here the students set up a network of computers for a needy, usually isolated school. The benefits of this program extend far beyond the IT skills and support work learned into all the social issues. This is an excellent program.

KHS in cooperation with the KHS ASSPA committee is now looking at introducing a similar program targeting our disadvantaged Aboriginal and Torres Strait students.

Apple in Singapore: Many of the leading IT gurus of the world are self taught. This in itself can be a most empowering concept for young learners. This is particularly important to VET IT students. While in Singapore, I spent the morning with one of their senior software engineers (Junior Tan). When asked how he attained his job at Apple, he said he had little formal training, but had been writing code since he was 8 yrs old. He went on to say that when he first started at Apple he was very worried he would not last, as he had no formal qualifications. He then went on to say that a friend at Apple pointed out that quite a few senior executives at Apple were in the same situation, with few formal qualifications. Self learning places no boundaries on what students can achieve.

Focus Area 4
Leading ICT enterprises future ICT developments (implications for education).
It is important to realise that technology has over the past few years experienced a downturn. I strongly believe that, just around the corner (5 years) another revolution in technology will occur. It is now steadily gathering pace. Microsoft and others have been promising this revolution for many years. However it is now fast becoming a reality. Information anywhere anytime, learning anywhere anytime. The school structures, learning from Kinder to Adult are about to be turned upside down. Please do not misunderstand. The existing structures will stay in place, however they will be enhanced by this revolution in knowledge and learning anywhere anytime.

One of the senior lectures in Singapore summed it up for me, “I will buy one of those portable devices (meaning hand held) when it has all the functionality of this laptop”

I believe that within 5 years, technology will have moved to a point where it will be a reality for students to access information anywhere anytime at a realistic price.

We need to place our students at the forefront of technology in order for them to succeed in life.

(Recommendations for DET continued over page)
RECOMMENDATIONS FOR DET

• Integrating technology (Focus Area 1)

The current implementation of integrating technology has been via the creation of new syllabus documents across all subject areas. This will ensure that technology will be placed into all KLA’s. This has been supported to some extent by the Board of Studies (BOS) with the introduction of the compulsory year 10 (2006) and the year 6 ICT skills tests.

I suggest that we need to look closely at the possible advantages of a model similar to the Pioneer Teachers program in Europe. We need to understand technology. Technology will continue to impact on education for many years to come. It will in the foreseeable future provide many opportunities to add to our teaching “tool kit”. We need resources in place that will move these new technologies quickly into education. Europe understands that this is not a one off situation, but will be an ongoing process.

• Online learning communities (Focus Area 2)

All day every day teachers in our schools develop quality learning materials, usually they remain on the PC of their creator. One of the present major shortcomings of the digital education world is the lack of quality content.

We need to:

➢ Set up an internet site immediately, that will aggregate our online resources, possibly via the National Quality Schooling Framework (NQSF)? OR with interested industry partners like Microsoft? OR with the DET itself? OR even at KHS?

In setting up such a site we need to:

➢ Encourage staff to place material on the site. Ensure that staff who place material into this repository are recognised for their contributions. Should other staff further modify this material, both names should be added. Staff will be motivated by the fact they can immediately show their expertise to all teachers in their KLA or Primary year across the state.

➢ Ask for expressions of interest for staff to be in charge of a particular secondary subject or a particular primary year. Pay them say $2000 per year and create a title for them. Their role should be to read and organise postings to the site. The selection process may involve each applicant having to post five items they have created (these would be the sites first listings). This leadership position should change each year. It may be a small group of teachers? They should be in schools not offices; this would promote more people to contribute.

➢ Establish an outstanding educational resource that we may share with other educators across the world? Already countries like Singapore value very highly our educational system.

• ICT and Vocational Education (Focus Area 3)

Our Vocational Education in IT across Australia needs to supplement our qualifications with internationally accepted industry standard qualifications. Many Universities across Australia are now moving in this direction. We can begin to achieve these qualifications at High School.

In looking at many schools across the world, KHS will be introducing the A+ qualification into our ICT strategy from 2004. Hopefully other schools across Australia may follow? KHS will continue to be a Microsoft IT Academy.

In the past couple of years DET has trained many Computer Coordinators in Networking. These skills are invaluable. There are many staff that have the skills to deliver these industry standard courses.
• **Leading ICT enterprises current practices and future ICT developments (Focus Area 4)**
  
  Up to the present point in time, technology has not been able to fully deliver learning anywhere/anytime. We need to begin to move toward these outcomes. Many educational authorities are moving forward in this area eg Oklahoma have placed their entire math curriculum online.

  **We have a unique opportunity to move forward.** The DET has a strong relationship with Microsoft. We need to create similar partnerships with other leading IT companies. We have the capability to be a world leader in online content development. Few of the leading companies can produce quality content as we could. This is the missing link in online learning. We need to develop appropriate learning for the digital world.

  I saw many opportunities for education to move forward in my tour. KHS is currently implementing an Elearning portal consisting of Microsoft’s Class Server and soon we will integrate Sharepoint Portal Server (we have trialled this product very successfully on our internal network). This will enable our 24/7 online learning strategy to move forward. This platform is being presently evaluated under the National Quality Schooling Framework. We are also evaluating other technologies at the present time to ensure that we are moving down the best path. For many years now, many IT companies have been talking about information anywhere/anytime, learning anywhere/anytime. I believe this will become a reality over the next five years. **This will only advantage our students.**

**SPECIFIC PLANS FOR KHS 2004… MOVING FORWARD…**

  The challenge for the (21st is the creation of learning environments that provide timely appropriate learning for those who need it.

  KHS will over the coming months move many of our educational resources online. We will share our resources with many countries to enhance our own resources. We will provide 24/7 access to our students, teachers and parents. The student platform will allow access from home, things such as upcoming assessments, submitting assignments online, practice test items (multiple choice for example marked online) the possibilities are endless.

  The platform is already in place in a testing phase. With the assistance of Microsoft and Futurekids we are in a process of building a viable Elearning platform that will help create the leaders of tomorrow. KHS is currently embarking on a formal research based evaluation of this project as part of NQSF. This will evaluate the integration of online teaching methodology into our mainstream teaching. The platform is being developed in conjunction with Microsoft products. A full evaluation will be completed by August 2004.

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3/04/2004

APPENDIX 1: Hollywood High School three track school system

Caltex Australia and The Rotary Club of Sydney  
Award for Innovation and Excellence in the Vocation of Teaching 2002