Sabbatical Report

Phil Holstein, Principal, Riccarton High School, Christchurch

Principal leadership in developing an e-learning culture in secondary schools

After five years as Principal I was granted a Principal's Sabbatical during Term 2, 2011.
The focus of my sabbatical study is the integration of digital technologies (ICT tools and systems) into teaching and learning and the development of an e-learning culture in secondary schools.

E-learning (electronic learning) is the computer and network-enabled transfer of skills and knowledge. E-learning applications and processes include web-based learning, computer-based learning, virtual education opportunities and digital collaboration. Content is delivered via the Internet, intranet/extranet, audio or video tape, satellite TV, and CD-ROM.

Background:

I am currently the Principal's representative for the Canterbury/Westland Principals' Association on the steering committee to lead the formation and development of the Greater Christchurch Schools' Network (GCSN).

This network will allow schools to:

- effectively access and share content
- participate in real-time video conferencing and virtual classrooms
- access innovative education, digital technologies and communications service providers
- connect securely to the Internet at up to 100 Mb/s
- embrace an e-learning culture across schools in Christchurch/Canterbury

(refer www.gcsn.school.nz for details)

The role of this committee is to provide advice and guidance for the implementation (connection) of ultra-fast broadband to schools in the Christchurch area; the learning needs and support required by teachers; and to keep Principals updated with progress and developments. This committee is one part of the network of groups involved in this project. Others include the technical and curriculum groups.

Working on this project is a privilege and has given me great insight into the opportunities this new technology provides for schools. The GCSN is an exciting local initiative, which will be transformative in students' learning. As a result, I am determined to gain a greater understanding of Learning Networks and e-learning in particular. My aim is to make Riccarton a lead school in the use of digital technologies in teaching and learning.

Acknowledgements:

- To the Ministry of Education and Board of Trustees at Riccarton High School for granting the sabbatical and supporting me to undertake this research study.
- Derek Wenmoth, Director e-learning at Core Education Ltd and Sandra Sidaway, Associate Principal of Burnside High School – for helping establish contacts with schools in England.
- Carol Moffatt, Project Manager for GCSN, for encouraging me to undertake this work.
- To all the Principals, Head Teachers at the 14 schools I visited.
- Andrew Jefferson, SMS Manager at Riccarton High School, who joined me on visits to New Zealand schools.

Purpose:

- To observe and experience best practice e-learning and service provision of digital technologies at identified secondary schools in New Zealand and a case study of schools in England
- To gain the knowledge, understanding and confidence to use the technology
- To lead the development of an e-learning culture at Riccarton High School

Rationale:

The vision for future education is based on schools building learning networks rather than being sole providers – a borderless and seamless education system supported by digital technologies. This is a paradigm shift and will require new ways of thinking among educators.

There is a need to consider:

i) the impact of digital technologies on the way a school operates.
ii) a more collaborative digital system for the provision and support of technical services.
iii) an environment where digital technologies are fully integrated into teaching practice and not just seen as an add-on.
iv) the impact on student engagement, learning and achievement through innovative use of digital technologies.

Schools of the future will have a collaborative learning infrastructure, facilitated by fibre optic connectivity, dedicated to providing innovative education. Already there are pockets of such developments internationally and nationally that are leading the way. It is important that New Zealand schools learn from their experiences and build on their innovation.

"As e-learning moves from the preserve of a passionate few, is steadily integrated into the curriculum as a whole, and is now a central tool of the entire school, the Principal's role in guiding e-learning is essential in order to ensure continuity and sustainability."
(David Kinane, Specialist School ICT Consultant, June 2010)

Now more than ever, with the increasing levels of investment by schools in their IT network, infrastructure, computers, peripherals, software, and staff training, it is imperative that the drive and momentum for e-learning is not lost when key members of staff leave a school.

It is important, therefore, for Principals and senior leaders to strategically plan for, manage, nurture and protect the e-learning entity as a system.

Creating an e-learning environment relies on:

- the quality of infrastructure (digital technologies)
- targeted Professional Development for new staff, and on-going PD for existing staff
- overt modelling of, and support by, the Principal and senior leaders

Methodology:

Aim: To visit, observe, meet and discuss with senior leaders and key personnel in a number of secondary schools whose provision and use of digital technologies to enhance learning is considered innovative and a model of best practice. Schools visited were:

In New Zealand:

Christ's College, Christchurch
Nelson College for Girls, Nelson
Nayland College, Nelson
Wellington High School, Wellington
Albany Senior College, North Shore
Kristin College, North Shore
Botany Downs Secondary College, Auckland
Alfriston College, Auckland

In England:

Knowsley Schools, including Halewood Centre of Learning, All Saints Centre of Learning and Northwood Primary School, Liverpool
Magdalen College School, Brackley, Northhamptonshire
Philip Morant School and College, Colchester, Essex
The Leigh Technology Academy, Dartford, Kent

Note: It was important to visit both newly-opened, modern schools and older schools. The state-of-the-art design of Halewood Centre of Learning and The Leigh Technology Academy in England, and the four relatively new schools in Auckland, gave me a clear vision of the look and feel of a 21st century school, while reinforcing the challenges faced by schools with older, linear-designed classroom blocks.

Report: A brief summary of each school visit is made and, together with this report produced for the Riccarton High School staff and Board of Trustees, serves to guide future planning and priority setting (*refer Appendix 1-3 for brief summary of each school visit and accompanying photographs).*

Implications and benefits:

Students will soon have the capability to learn anywhere, at any time, and I am convinced that new technologies will, and do already, transform learning in secondary schools. The need to plan for and embrace this education revolution is important, and nowhere more so than in earthquake-ravaged Christchurch. The damage to schools, and the consequent effect on student learning and the entire school network, is significant. The devastating effects of the earthquakes have been the catalyst for change and have demanded a rapid shift in school organisation and curriculum delivery. It was noticeable that teachers who were already using e-learning practices were more able to continue their programmes throughout the disruptions. The GCSN has had a lead role in coordinating these changes and progress is being made to link schools in various ways via digital technologies. Schools in Christchurch are working towards creating e-learning environments to ensure students are not disadvantaged.

It soon became obvious to me that to study the provision and use of digital technologies in isolation was limiting. Therefore I also focussed on how schools were establishing a 21st century learning environment and, in particular, creating an e-learning culture. This included studying how digital technologies influenced the building design and flexibility of learning spaces, pedagogy, curriculum delivery, timetable and structure of the day. The aim was to see how these factors better engaged students in learning and raised student achievement levels.

Conclusions:

The similarities between England and New Zealand Schools were apparent. However, in English secondary schools there is greater funding available to provide digital technologies and for the provision of resources, especially online resources, to support teaching.

All schools I visited are following their own paths. However, common themes are evident:

- the real commitment to, and investment in, digital infrastructure.
- the importance of planning for the most cost-effective provision of digital technologies for the greatest impact on student learning.
- the increased collaboration and interaction between students, and between staff and students, using digital technologies
- the increasing number of students using mobile devices in their learning – all schools were investigating issues around their use.
- the use of The Cloud by schools for student email and data storage (eg google docs).
- the frustrations of limited resourcing available to meet staff interest and demand to integrate digital technologies into teaching practice.
- the issues of addressing the slowness or resistance of some staff to embrace digital technologies.
- the importance of regular, ongoing professional development programmes for staff on the use of digital technologies.

Key findings are:

- The Principal has a key role in leading and supporting the development of a rich digital technology environment.
- Local experts and passionate teachers are the key drivers of change.
- A planned and coordinated investment in digital infrastructure is essential. The SNUP project (Ministry of Education initiative) is a great starting point for schools as they will then have an up-to-date digital technologies platform from which to operate.
- A wireless environment is essential in schools. The continued development of our learning management system (the combination of Sharepoint and Moodle) is important. Not only does it allow teachers to store and share documents and resources, but also the student class sites and parent portals (linked with our student management system) open communication lines to student progress and enhance learning.
- Students still need digital technology skills and a digital citizenship programme to get the best use of the technology available. In addition a Building Learning Power programme should be run in conjunction with this.
- Ongoing, regular and targeted staff professional development in e-learning is essential.

Implications for Riccarton High School:

1. Modern Learning Environments (MLEs)

Future school designs should combine functionality with inspiration, always seeking to put the learner at the centre. This might put an end to classrooms as we know them. Technology has democratised access to knowledge and this dynamic requires us to rethink and redefine what is learning space.

Building design and a robust digital infrastructure strongly influence teaching practice. There is a clear relationship between new pedagogy, new skills and utilisation of space. We urgently need to review the MOE formula for building new classrooms and buildings. The components of a MLE are now a priority area in our 10-year project plans. Schools are encouraged to consider recent educational research to influence the design of new schools. This is particularly noticeable in the Auckland area. Schools are considering overall space requirements and are reconfiguring spaces inside differently. In addition, we must seek to ensure that buildings are designed for users and uses beyond the teaching of young people, thus blending them into our communities.

Surveys taken of the stakeholders – staff, students, parents and local community groups – in the Knowsley area of Merseyside, England, showed clearly that people wanted learning environments that respected them (*refer Appendix 1*). As a result, the lead group identified the following set of design principles that should be considered when designing new school buildings:

- learning spaces which are exciting, inclusive, welcoming, open, light, safe, well-maintained and secure places to work, learn, socialise and play in
- multifunctional open spaces: comfortable furniture, mobile digital technologies, world-class sports and arts facilities, community and student art placed within buildings, colourful, tranquil, uplifting, colourful and warm
- different external spaces for social, sport and art activities

- sustainable technologies (solar power), water conservation and land drainage solutions, natural ventilation
- outdoor teaching spaces, individual lockable bike stands, water features, and supervised, light, open, clean, modern shopping centre-type toilets
- art galleries, balconies, cyber cafes and information points
- facilities for both curriculum and community use, open access for all

These guidelines allow a collection of adaptable, flexible spaces where purpose is always changing; expanding the amount of space owned by students and creating a greater sense of co-owned space between teachers, students and the wider community.

From my school visits I have identified several key principles for Riccarton High School to consider when planning any future refurbishment or modernisation of existing facilities and any new building projects.

These principles include:

- driving innovative designs – a wow factor – into the learning spaces; responding to a variety of learning needs; redefining what is a learning space and identifying the minimum and optimum requirements of these spaces
- buildings to flow and be able to respond to wider variety of uses
- interiors and exteriors of buildings able to accommodate learning
- students and staff to have access to flexible, adaptable, agile spaces which are quickly reconfigured, for example, spaces for groupings of 20, 40 or 60, not just 30
- principle of '1 space, many uses' – adaptable and flexible space that can be colonised and recolonized several times per day
- democratised space inherent in the design – places where access and use is negotiable and intuitive – learning streets or plazas are examples
- develop shared working spaces which mix and join faculties to enable collaborative approaches and better use of teacher expertise
- provision of covered, possibly indoor, lunch spaces, cafeteria and tutorial spaces

Immediate examples at Riccarton might be:

- Nelson blocks, particularly G/H block, refurbished and modernised. Remove toilet bays and build separate, modern, supervised, monitored unit. Consider putting stairwells on outside of building, creating more flexible learning spaces within present layout. Place clear glass divisions with sliding doors in larger rooms *(refer appendix 3 for photos of Nayland College*). Porirua College, Wellington, Otumoetai College, Tauranga and Hillmorton High School, Christchurch, are other schools doing innovative things with Nelson blocks and other linear classroom teaching blocks.
- Digital noticeboards for displaying information –initially placed in reception foyer and student service area

- Canteen – sunshade extending from roofline with wooden tables on quad; provide hot water and microwave in one of slide areas
- Auxillary plug for evacuation sound system – to play music instead of bells; Prefects to play music over system

2. Digital technology infrastructure – the provision and use digital technologies:

Riccarton has been given a great start through the Riccarton Project (1998/1999) with substantial funding and professional development support. Staff have upskilled themselves and are ready to further integrate digital technologies into their teaching practice. However, they are limited by the number and availability of computers.

Key focus for future developments:

- An injection of capital from the School Budget for the planned and coordinated provision of digital technologies in order to develop our e-learning culture.
- The upgrade of our school network, to be completed by the end of 2011, is an essential starting point.
- The establishment of a wireless environment in the school. Quotes have already been obtained to complete this project.
- Students encouraged to bring along their mobile devices to support their learning.
  Note: Mobile devices could be of a recommended type (eg netbook, or at least be able to run specified applications set by us. Should we charge students for wireless access?

At the same time we should:

- Increase the number of networked computers in pods available for students, for example increase B-Block computer pod from 20 to 30 machines.
- Investigate the viability of purchasing COW (laptops on wheels) or CALF (mini computers such as netbooks/iPads)
- Always aim for a balance of fixed stations around edge of rooms, laptops and possibly iPads/netbooks, with the network having the level of security expected at a bank (renew on four year cycle).
- Continue the development of the e-portal for parents and students.
- Enhance the use of our website and commit to its ongoing development.
- Extend the staff's use of Sharepoint and Moodle in all learning areas.
- Have an efficient system to send out mass e-mails through Kamar – overcome SPAM barrier.
- Encourage and support staff in their use of Sharepoint as a storage area for teaching programmes and resources, plus Moodle for class sites.
- Encourage the use of video conferencing unit by offering professional development opportunities.
- Review the level of digital technologies support. We have to provide more.
- E-learning project: trial an e-learning class in 2012 – either a Year 9 class for all subjects, or a Year 10 class for four subjects with a homeroom for ease of WiFi access.

Note: Students or parents to apply to be part of the programme. Encourage purchase of one designated device by arranging a special deal with a laptop company, or students bring own devices with minimum specifications. Staff given time allocation to develop resources.

3. Professional Development:

Regular, planned and coordinated professional development opportunities are essential to develop the capacity of staff. Our current model of PD has been an effective means to initiate and embed best practice teaching practices.

Teaching as Inquiry (as per the NZ Curriculum) and upskilling the staff in the use of digital technologies will continue to be our focus. Currently our programme is delivered on a whole staff basis, but we are now ready for a more specific programme targeted to the individual needs of the staff.

Note: From 2012 it is envisaged that our Staff PD programme will continue to be focussed on these two areas and be provided on a weekly basis.

Note: One option is for the current Monday meeting time (3.15-4.15 pm) be devoted mainly to Staff PD. We may look to modify the timetable or one school day in order to build in a weekly PD session. The current model of two x 2-hour sessions timetabled per term may also continue.

The Staff PD Programme will take the form of:

a) **Teaching as Inquiry** – every staff member asked to undertake an action research study during the year with a group of their students. This would be part of the appraisal process. They may undertake this work individually or work in pairs or in small groups. The findings and reports could be placed in an e-portfolio or Sharepoint.

b) **Digital Technologies** – continue on a weekly basis
Investigate the possibility of applying for an MOE digital technologies project to support our work. This may give us some teacher release time.
Individual sessions to be offered based on individual needs. Sessions to be facilitated by staff who have interest in a particular area. Use of Sharepoint or Moodle will be included.
Designated staff member with a time allocation would lead, assist and support staff in their knowledge and skills of e-learning.

4. Curriculum delivery:

Optimum learning relies on appropriate timetable structure, period duration, effective groupings, effective sizes (streaming versus mixed ability classes). There is a direct correlation between school size, behaviour and graffiti and damage to school property. We may consider vertical forms and house systems as part of our review.

Note**:** American-based evidence suggests that optimum learning takes place in lessons of 2 or 3 hours, with group size of 50-60 students. That is, four x 1½ hours lessons or two x 3 hours or three x 2 hours (a three-hour block is spread over lunch time blocks). This allows for team teaching and more personalised learning, dividing group into ability levels, with three teachers for 60 students.

We need to continually review our curriculum.

This **could** include:

- Continue investigating the timetable, the structure of the school day, the grouping of students, the place of contextual learning and the inquiry project
- Trialling a four period morning and one period afternoon in Term 1, 2012
- Incorporating a Building Learning Power programme one period per week (based on Botany Downs Secondary College model)
- Incorporating a Digital Citizenship Programme from Year 9-13 (based on Kristin College programme)
- Developing the tutorial programme by issuing study cards for students in period 5 tutorials (Alfriston College example)
- Investigating the viability of impact (inquiry/research) projects. Students at Albany Senior College take only 5 subjects in 25 hour week timetable – this leaves 5 hours per week for these programmes.
- Reviewing the place of Year 9 contextual learning class – perhaps replace by programme where all Year 9 classes experience one context during the year
- Introducing thematic studies in the junior school during one week of each term (Alfriston College example)
- Consider on-line reports only (not printed)

5. Personal leadership

I have completed 5½ years as Principal at Riccarton High School with a personal philosophy of continuous school improvement based on enhancing our strengths, identifying next steps, and concentrating on processes in order to achieve our goals.

This sabbatical has given me the time to reflect on my leadership. The opportunity to meet inspirational Principals, Head and Lead Teachers in 14 schools has been energising and a great learning experience. I have a much broader perspective about the life in, and operation of, secondary schools. We compare favourably with other schools, both in our work and future planning. I feel even more confident now in leading the school to develop an e-learning culture in order to improve outcomes for students.

Personal goals will be:

1. To ensure that all learning areas set targets and goals based on detailed evidence and action plans with clearly defined expected outcomes that can be evaluated.

This will continue to involve:

- Analysis of NCEA results in senior school, and helping establish goals and targets for all departments or learning areas
- Use of common achievement tasks (CATs) by all departments in the junior school. This data can be analysed, through pivot tables for example, in order to identify strengths and next steps for planning units of work. It is hoped that this will be done in a regular, systematic and collaborative fashion.

Note: Use of pivot tables to analyse achievement data allows breakdown of results by ethnicity, gender and links to PATs to establish a sense of value added.

2. To extend the goal setting work with our senior students already undertaken by our Careers Adviser, assisted by Deans. For example, use goal setting sheets similar to those used at Botany Downs. It is important for students to formalise SMART goals and that they be evaluated and reviewed during the year.

3. Riccarton High School to be involved in the mental toughness project, an international study undertaken by Damian Allen (Knowsley Schools initiative). I believe this work will assist us in identifying how resilient our students are and support us in our efforts to develop their resilience.

Overall this sabbatical project has proved to be an invaluable experience. I now have a greater understanding and clarity about how to move forward at Riccarton High School as regards our digital technologies infrastructure. I feel confident that our future direction and planning will include components from the schools I have visited.

My challenge now is develop Riccarton High School as a lead school in the use of digital technologies in teaching and learning, and create an environment which continually enhances the learning, engagement, progress and achievement of our students.

Phil Holstein
Principal
Riccarton High School
July 2011

Appendices: Brief Summary of School Visits

Appendix 1:

Overseas Context: England – *Monday 6 June to Thursday 9 June*

1 Knowsley School's initiative and developments

Contacts - Damian Allen (Executive Director) and Elayne Ayre (Service Director) of Children and Family Services Directorate of Children and family services Knowsley, Metropolitan Borough Council

Background - within the 'Building Schools for the future' (BSF) announced in 2003. Aim to rebuild or refurbish every secondary school in England over a 15-20 year period and a notional budget of £55 billion earmarked. This included resources for digital technologies.

Knowsley is a borough of 150,000 people adjoining Liverpool –proud Merseysiders. –identified as one of the most deprived areas and bottom of National Education league tables plus a critical Government Inspection report.

New Education Management team appointed in 2000 lead by Elaine Ayre and Damian Allen. Developed a strategic approach for school improvement in 2004. Gained approval to close all 11 existing secondary schools (11-18) and open 7 new institutions in brand new buildings called Centres for Learning. Given £ 250 million to spend and told to and invent what you always dreamt of!!

Building design –realigning for the demands of 21st century education. Important to strive for an approach to learning that matches the one the buildings were designed to help deliver

Pedagogy -Learner at the centre. Sought new teaching practices Linked to Building design- gained feedback from stakeholders

Community access and de-constructing the school day

First centre to open in January 2009 and has already seen 15% rise in performance. Results continue to rise and now Knowsley schools are off the glowing red list.

Now currently in process of closing 11 existing primary schools (age 4-11) and replacing them with 5 new learning institutions each with a state of the art new building. Budget of £44 million.

Plus a single new School for Special Needs in brand new building in September 2012 – cost of £18million (close 2 existing facilities)

The buildings will enable new practice to expand and colonise.

The environments are responsive, adaptive and sensitive to the need for change.

Total funding secured is £315 million

Biggest challenge is to change mind sets/ paradigm shifts for staff, students and parents - a radically different approach to education based on a technology enabled learning revolution.

Case study: Halewood Centre for Learning – including Sixth Form and Specialising in Performing Arts.
Contact: Head Teacher Ann Behan
Roll of approximately 1200 students (years 11to 19)

Digital technologies infrastructure:

- Rich digital technologies environment- staff and students

Other:

- State of the Art building / facilities (fully enclosed under one roof); central atrium used as cafeteria
- Structure of day and timetable – 5 period day with one period in afternoon, plus two registration periods (at start of day and at start of afternoon period); students only take 5 subjects in senior school
- Digital noticeboards (student information) placed around campus
- Attendance a key issue……work hard to get students to come to school and stay there. Attendance rates have improved markedly
- Police presence all day with an office on site – deal with social issues as they arise. A positive influence in school
- Strong community focus- using the facilities beyond school day
- Open plan learning spaces; 3 stories divided into learning stages (Key stones)
- Strict security in an out of centre.
- Strong focus on student academic outcomes particularly GCSE/ A level results; students' progress monitored closely

In addition also had brief visits to Yew Tree Primary School (still being constructed); All Saints Centre for Learning and Northwood Primary School (Just about to open). All schools follow Knowsley design and philosophy.

2. Magdalen College School, Brackley, founded 1548

Contact: Ian Colling Head Teacher; Toby Heley, Assistant Head Teacher (responsible for strategic development of digital technologies across the school)
Coeducational, comprehensive Secondary school (Years 11 to 19 range)-Maths and Computing Specialisms in senior (post-16years) college since 2004

Digital technologies infrastructure:

- Growing IT environment- pods of computers around the school (1: 3 ratio for student computers
- VLE developing (designated staff member responsible for system and staff support), with e-portal for parents available

Other:

- Two campuses, mixture of older original buildings on St John's site back date from mediaeval times and in 1966 modern facilities on Wayne Flete site. Students walk between campuses during day.
- Five period day with early morning registration and one hour after lunch
- House system
- Student engagement and homework focus
- Community involvement and close links to primary schools
- GCSE and A level results drivers for improvement. Use statistical evidence to identify and target at risk students

3. Philip Morant School and College (Colchester)

Contacts: Peter Gibbon, Assistant Head Teacher and Matthew Barker, IT Manager
Year 7-13 (age 11-18) Comprehensive School, Specialist Technology College (since 1994), built in 1960s; has own Sixth Form
Roll of approx. 1200 students

Digital technologies infrastructure:

- Rich IT environment with excellent technical support staff- VLE (especially parent portal) and web site seen as very important (assigned designated staff member)

Other:

- Receives enhanced funding to develop Technology, Mathematics, science and digital technologies
- High quality and personalised approach to Post 16 learning
- Resource base for hearing-impaired students
- Strict security to enter school
- Few staff meetings … staffroom only seats a small proportion of staff. Most stay in learning areas for lunch
- Excellent cafeteria with swipe card technology (no cash sales); enjoyed a roast meal for lunch!
- strong academic monitoring and guidance systems - constant use of statistical progress data. Students have continuous access to their academic results ... A real motivator for students and staff.
- GCSE and A level results are the basis for school improvement
- clear designated pathways (5) for students to follow- each with set pre- requisites

4. The Leigh Technology Academy (Dartford, Kent)

Contact: Frank Green Principal and CEO
Opened on new site in January 2008; roll of 1500 with 220 staff – coeducational; split into 4 colleges each with own Principal; The Leigh Academy offers three specialisms – Business and Enterprise, Sports and Technology. - National reputation for innovation, research and development.

Digital technologies infrastructure:

- Rich digital technologies environment- balance of lap tops, fixed stations (around edge of room) and i-pads; bank level type security on PCs.
- i-pad environment: preferred option due to security, durability and long battery life ; wireless and internet access; camera and phone
- very few smart boards but have a number of lap safes (portable units) – 2 x 15 laptops per college (6 total); wireless facility (need mixture of hard wired computers plus wireless.
- 750 computers available for students
- Allow 25% /year on depreciation of digital technologies (not 33%)
- Virtual Learning Environment (VLE system)-Serco facility; e-portal+ Moodle

Other:

- The Leigh is one of the highest achieving state comprehensive schools in England. In October 2009. The Leigh was judged to be "outstanding" by Ofsted and was awarded 19 'grade 1s' for its work.
- Cutting edge facilities –Open plan Learning plazas with ready access to computers
- Rolling lunches between colleges. ¼ of students are out at any one time; 30-40 minute lunches; timetabled tutorial periods
- Basic principles of learning environment – flexibility and agility of spaces i.e. speed of change that can be made
- Optimum learning depends on rich digital technologies environment, the time period of lessons and group size. All mixed ability classes; vertical form classes; optimum size of school is 600 – direct correlation between school size and graffiti & damage to school property and behaviour
- Structure of day based on American based evidence- suggests that optimum learning takes place in lessons of 2/3 hours duration with group size of 50/60 students. i.e. 4 x 1½ hour lessons or 2 X 3 hours or 3 x 2 hours. Note: a 3 hour block is spread over lunch time blocks. This allows for team teaching and more personalised learning (ability levels) i.e. 3 teachers for 60 students. – same 3 teachers stay with same body of students for 3 years; English maths and Science grouped this way; allows better use of teacher expertise e.g. Physics, Chemistry , Biology
- Provision of lunches and cafeterias
- Parents initially nervous about changes in lesson structure
- Access to flexible spaces; aim to build spaces for either20, 40 or 60 NOT just 30!
- History, Geography and English close together; Maths & Science together

- Emotional literacy programme on tutor time; Uses YALE university programme (Mark Brackett)- based on words – how feel about them; take home discuss with parents e.g. “anxiety”/develops students who can express emotions thru language; one word a week
- Reports every 6 weeks (semesters) – 2 x 7 weeks before Xmas and 4 x 6 week blocks after Xmas; 6 cycles of learning- project base learning; no printed reports; all on-line with learning targets for second half year
- 4.00-5.00 pm staff training once a week
- Music/movement literacy programme to enhance literacy levels
- School pays for extra staff contact time…..pay for additional hours worked above contracted hours (8.55-5.00pm per week).

Appendix 2:

New Zealand context: *Thursday 23 June, Monday 27 June to Thursday 30 June*

1. Christ's College (Christchurch)

School Roll of 600 students (100 staff), Decile 10, Independent Boys School
Contact: Paul Rodley- IT manager

Digital technologies:

- Principles of e-learning environment: balance between provision of hard wire (desk top) machines, lap tops (for seniors); i-pad2s for juniors and bring your own mobile devices (need to establish one model only) e.g. i-pad2?
- For students to become true digital citizens they must be allowed to take ownership of their mobile devices. Schools cannot both provide the device and manage it as well. Too hard!
- Teaching pedagogy in a rich IT environment – need to establish minimum requirements for class rooms. Flexible and agile spaces; intranet supports
- Rich IT Environment includes**:**
  - Wireless environment – cost $100,000 through fusion Networks…..Trapez / Rucus Brand. Aim to have 1800 simultaneous connections (3 devices per student); can run phone system over wireless network; Need robust, simple, reliable network with large capacity
  - Ultrafast broadband – separate from GCSN; faster connection speed
  - Website/Publications Manager & Graphic Design person – on-line newsletters every 2 weeks
  - School Facebook page to publish news and key events – fan page. Open to students!
  - Use/employ students to develop programmes and produce videos of school life for web site & Facebook page eg. cover traditional interschool Rugby matches
  - Smart boards- limited number; prefer smart (interactive) projectors e.g. Dell/Epson models - $2500.
  - Printing – use photocopiers rather than laser printers; using Google.doc
  - Video conferencing – less use this year
  - Student Management System(SMS)- use synergetic web- based system
  - Learning Management System (LMS)– a combination of systems with Droople
  - E-portal – hooked into Mahara and Moodle – limited development only
  - Resources**:** Dumped Clickview – moved to Mediacorps (open source). Wike-educator – free, enables teachers to make e-books; runs out of Otago Polytechnic; a subway approach to producing resource material

2. Nayland College (Nelson)

Contact Rex Smith, Principal
Decile 7, State Co-educational school, roll 1280

Digital technologies

- School Network Upgrade (SNUP) just completed - looking to expand use of DIGITAL TECHNOLOGIES. Spent three days visiting Wellington schools finding out about e-learning.
- 5 x 30, 1 x 40, 6 x 10-12 computers (bookable spaces and pods, no laptops). 100 hours technician time, plus consultants.
- Trialling a wireless environment. Using Moodle to develop an e-learning website, Wellington High School was the inspiration for this. Already have a large number of e-resources in maths and science which will be ported to Moodle.
- Use emails for parent communications (KAMAR) - assessments coming up etc. Exporting email addresses and sending via normal email system.

Other:

- Will be running a Year 9 e-learning class next year - bring your own device, using Google Apps. Running this as a trial - offering lease options. Giving time to at least four staff across the four main departments, roughly two periods a week
- Mostly self-directed staff PD. Whole staff PD used to be once a week in the morning, now run fewer longer sessions. Have a one hour session three to four times a term. After school, everyone required to be there - built into the meeting schedule.
- Structure of day - 8:55 - 9:05 form time (20 minutes on Friday) 5 period day except Wednesday – 6 x 50 minute periods.

3. Nelson College for Girls

Contact Cathy Ewing, Principal
Decile 8. State Girls School, roll 1025 (includes private prep school on site)

Digital technologies:

- Five suites of 25 computers plus a few pods, approximately 250 student computers. 400-450 computers including teacher laptops. 12 Active boards & Mimeos. "Make sure everything works all the time." Want to make more pods and have at least one computer in every classroom.

Have wireless in reasonable amount of school (Ruckus), looking at allowing a range of devices. Very few students taking this up at this stage; charging a yearly fee which covers support. Using First Class for e-learning at present (7 years) reserving judgement on the future of this.

Other:

- Whole staff PD - every Thursday 8:25 - 9:00am - not currently used for e-learning.
- E-learning co-ordinator is HOD and teaches two classes. Introduces new material to whole staff, but mostly working with departments.
- Two full time and one part time technicians, plus outside consultant.
- Horizontal tutor groups, stay the same for five years.
- Had problems with bulk emails initially, but KAMAR system seems to be okay now.

4. Wellington High School

Decile 9, State co-educational school, roll 1100 (shared campus with Massey University, links for 125 years)
Contact Dominic Killalea, Deputy Principal

Digital technologies:

- Background: In 2006 had 6 computer labs, 2 thin client - things not working well everything needed replacement. Willingness to do something different, applied for digital technologies PD 2007-2009. Looked at different SMS and LMS, went with KAMAR and Moodle in 2006, also set up a digital technologies infrastructure Committee to oversee infrastructure. Worked out plan for replacement over 4 year cycle.

Other:

- Digital technologies PD contract -Decided to spend all the money on teacher release - released 3 teachers 4 hours a week, 4 teachers 2 hours a week. From this a leadership group developed. Identified key areas in Maths, Science and English for development - Technology and Social Science were already using digital technologies quite extensively. This group grew as time went by. Had a "bring and brag session", where you could choose what to go to for a half hour session. Technology teacher experimented with using blogging. Lead teachers had to present at the Tuesday PD sessions. Lead teacher was a one year position, so different people the following year. Bring and brag ended up being a really important part. This year Tuesday has moved to learning groups.
- Tukotahi Project in 2008 (standing together) which involved bringing together groups of people to talk and collaboratively plan around topic approaches. Tried knocking out a wall between two classrooms to have a shared class of 50, but ended up dividing themselves into two classes of 25. Ended up having a significant pastoral focus and impact. Extended to all year 9 classes in 2009 - 16 hours for the core plus PE, group of four teachers responsible for 50-55 students, split into two classes. This was running parallel to the digital technologies PD.
- Developed idea of learning conversations - twice a year where parents come in and set learning goals and see examples of work. Used My Portfolio for students to put in their goals, have a blog, and have examples of their work. Google Docs was emerging at the time and has ended up being easier for what they wanted to do, so have abandoned My Portfolio for now.
- Staff PD in 2011 - 8:30-9:30 on Tuesdays is professional learning - most subscribed is digital technologies
- Decided in 2010 to have netbooks for the tukotahi groups, had 90 out of 160 interested, ended up with two tukotahi groups with netbooks and one without. Some parents opposed in principle and others couldn't afford it. Now have list of minimum specs for device to conform to, all Year 9s have net books or laptops. Went to Frankston High School in Melbourne to see a laptop programme in action. Four labs of 25 with "fishbowl" in the middle, one lab of 30 and a Mac lab. A number of pods in different areas. About 270 networked computers for students plus 150 net books for Year 9 and 120 for year 10. Around 720 devices connecting to wireless per day. Core Education has someone who will do a wireless audit. Use of Google Docs with forms for student

feedback. Using Blogspot for blogging in Tech Design. Moodle appeared to be used primarily as a stepping off point.

5. Albany Senior High School (North Shore)

Contact Barbara Cavanagh (Principal) and Mark Osborne (Deputy Principal)
Decile 10 , State co-educational school on North shore, Auckland. Roll of 760 students (Yrs 11-13); maximum roll is 1300

Digital technologies:

- Total of 220 desktops; 200 for student use. Situated around the outside of the learning commons, middle of learning commons reserved for wireless devices. Use Fathom, iMovie, Sibelius, all else is open source. 270 wireless devices connected to network recently. All services web-based, outsourced hosting. Students can't print from wireless devices. Using UDI to populate LDAP from KAMAR.

Other:

- New school opened in 2009 (MOE design) with open plan learning spaces and Rich IT environment.
- Timetable and structure of day - Tutorials twice a week for 100 minutes, 15 students (5 per year level) - building learning power. Choose 5 specialist subjects, twice per week for 100 minutes. Wednesday is Impact Project day. 8 community groups with 6 teachers in each, cross curricular. Workspaces for each community. Staff meetings 4 mornings a week at 8:20 in a seminar room, staff lounge used only for unwinding etc. Monday is run by the Principal - culture meeting, setting up the week. Tuesday is on tutorials, Wednesday is on impact projects, Thursday is specialist subjects.
- Digital noticeboards (student information) placed around campus
- Monday afternoon meeting time 3:30-4:30pm have a cycle of three: culture (currently conversations that matter in impact project, Term 1 was on tutorials), professional enquiry, appraisal
- Currently 2-3 classes per learning common, will need to be four. Room for two more learning commons up on level five. One space in each learning common is a seminar space which can be closed off for noisy activities or ones that require no background noise.

6. Kristin College (North Shore)

Decile 10, Independent co-educational school (35 years old)
Contact: Head of Senior School
Roll of 1600 students on campus, 350 senior students

Digital technologies infrastructure:

- Middle school compulsory laptop programme, paid for on top of fees, fully supported by the school. Just had labs for senior school until a few years ago, have moved towards wireless, about to move to new wireless system.
- Strongly encourage students to bring along a laptop, but have decided to support multiple operating systems / devices rather than specifying. Next year devices will be expected.
- Use of sandpit for trialling software / hardware, and edu-case for digital technologies requests.
- Digital citizenship programme developed by Andrew Churches. Refer book - " The Digital Diet - today's digital tools in small bytes: Andrew Churches, Lee Crockett, Ian Jukes".
- Palo Alto system used for network traffic.

Other:

- Three schools model (on same campus) for last 15 years. First NZ school to offer IB programme; offers dual pathways. Claudia Wysocki was a key instigator of change, growing the school, developing three schools, introducing IB. Around 60% do IB. Average class size of 15, maximum of 24. Teachers are expected to teach in both systems. Had to do quite a bit of work over the last few years to build up the profile of NCEA with students, parents and staff.

7. Botany Downs Secondary College (Auckland)

Decile 10 State co-educational school, opened 2004
Contact Mike Leach, Principal, roll of 1800 students

Digital technologies infrastructure:

- 1800 students, 800 workstations, around 650 student use. COW or calf in each whanau, plus pods. $80,000 per year to New Era IT for computer support, provide 1 person onsite plus supervisor who looks after 8 schools. Extra support can be called in if needed.
- Partnership with Microsoft since mid 2010. A "Pathfinder" school (4-tier system includes innovator schools & mentor levels. Costs nothing, they send people in all the time to sort out problems etc.
- Using Aruba for wireless- $60,000.

Other:

- Extensive use of PivotTables to analyse achievement data and allow breakdown by ethnicity, gender, PAT etc. Common assessment tasks in junior school to allow for comparisons between teachers etc. Goal setting in Term 1, give stats in Term 2 etc.
- Use of OneNote to hold appraisals etc, shared resources between senior admin, teacher appraisal can be updated by appraiser and appraisee.
- Setting up use of SharePoint for students to be able to be assessed by others at higher level against key competency descriptors, automatic certificate generation.
- Student Goal setting programme – students interviewed twice a year

8. Alfriston College (Auckland)

State co-educational school, Decile 3 (was 4). Opened in 2004
Contact: Susan Impey, Principal; Roll of 1400 students (capacity of 1500)

Digital technologies infrastructure:

- Initially weren't set up for computer labs, but now have a couple.
- Starting wireless process now (using New Era). Have full time technician plus New Era, looking to transition. COWS have net books and laptops, about to experiment with iPads. Costs around $15,000 to $20,000 to buy a COW, around $4,000 to lease. Committed to leasing at $110,000 a year (including data projectors).
- Currently around 1:4 computers, supply COWS of netbooks or desktop computers on wheeled tables as requested by different learning areas.

Other:

- Ethnicity: Always had over 30% Maori, now have under 25% European. Biggest driver around the school are the five whanau (each of 250 – 300 students).
- Extensive Tutorial programme - issue study cards/learner licenses for students (by application); encourages independent learning
- 'Thematic studies'(modules) at all levels -two per year of one week duration
- Only enforced IT PD is that Teaching as enquiry projects must go onto e-Portfolio

Appendix 3 – Photos from school visits

To access the photos, hold down the CTRL key while clicking on the link below.
England Schools

New Zealand Schools