St Catherine's College
A Networked Learning Community

"An education with an active discovery of reality is superior" Piaget

The Givens:

- Literacy is essential.
- Technology needs to be used to support and develop learning.
- Technology must add value!
- The core qualities – those most important to the educational experience are the teachers and the curriculum.
- The peripheral qualities are those that you wrap around the educational experience – they need to be meaningful, interesting and challenging.
- Collaboration is important.
- We want independent learners who are willing to try- both in our students and staff!!!

The Impact of ICT on Student Learning and Achievement:

Despite the growing interest in the use of IT initiatives, relatively little empirical research has focused on the outcomes of these investments. The current special edition of the Journal of Technology and Assessment presents four empirical studies of 1:1 computing programmes.

"In their study, Bebell and Kay found that teaching and learning practices changed when students and teachers were provided with laptops, wire- less learning environments, and additional technology resources. In the five 1:1 schools they examined, they found that while the implementation and outcomes of the program varied across schools and across the three implementation years, access to 1:1 computing led to measurable changes in teacher practices, student achievement, student engagement, and students' research skills."

(Educational Outcomes and Research from 1:1 Computing Settings, Damian Bebell& Laura M. O'Dwyer, JTLA, Volume 9 Number 1)

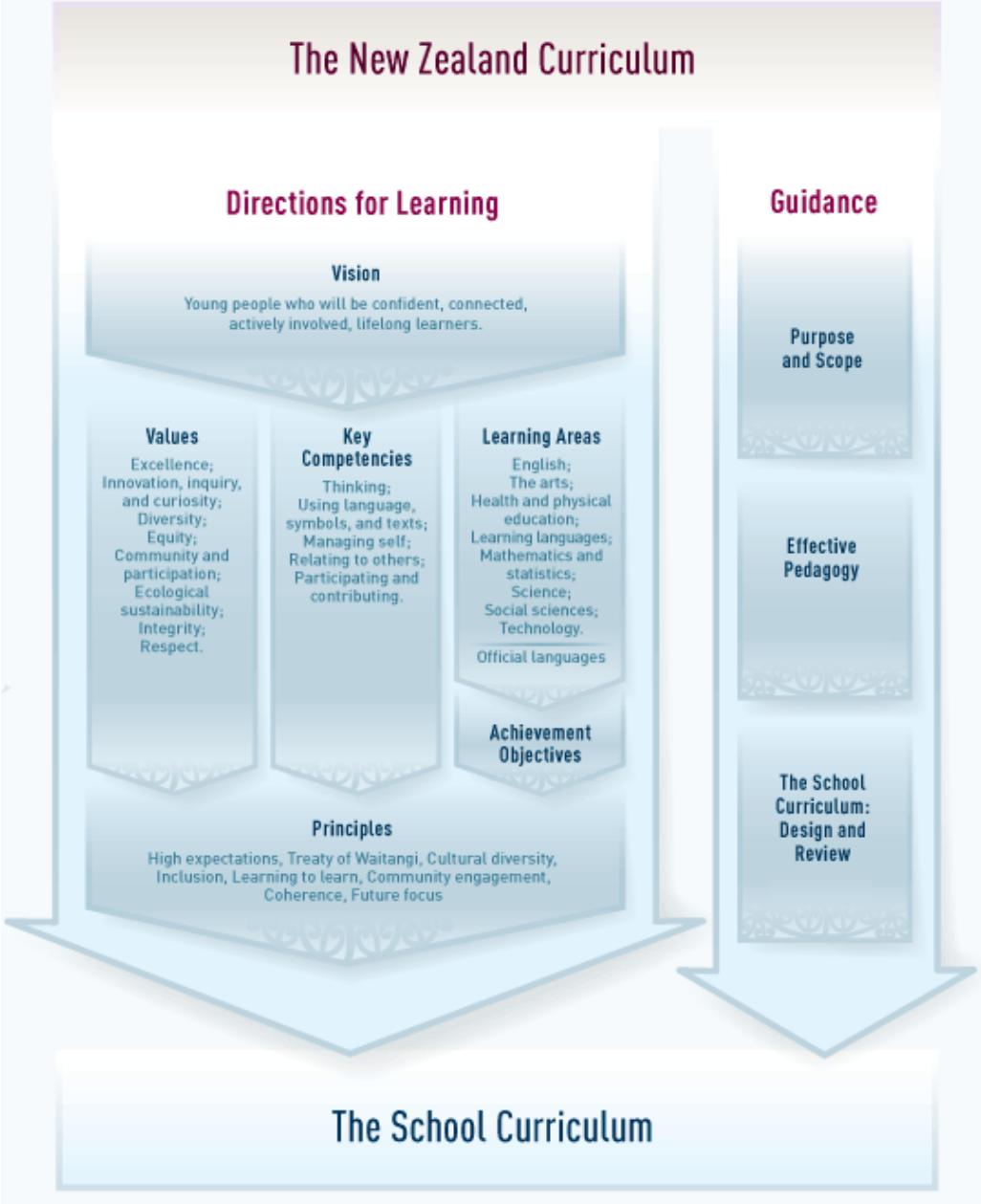
John Dewey – American educator and philospoher in the 1940's was then talking about preparing students for their future -http://www.youtube.com/watch?v=opXKmwg8VQM (6.25 – 6.45min). John Dewey has also however, been accused of and blamed for the dumbing down of the American education system, hence the importance of ensuring teaching and learning is challenging, stimulating and allows for the development of those higher order thinking skills.

Our Challenges:

Helen Timperley recommends that teachers inquire and reflect collaboratively in the context of a professional learning community. She stresses, however, that professional learning communities will only lead to improved student outcomes when they are focused on becoming increasingly responsive to their students. (*Teachers as Learners: Improving outcomes for Māori and Pasifika students through inquiry (2009). Ministry of Education.*http://nzcurriculum.tki.org.nz/Curriculum-stories/Case-studies/Inquiry)

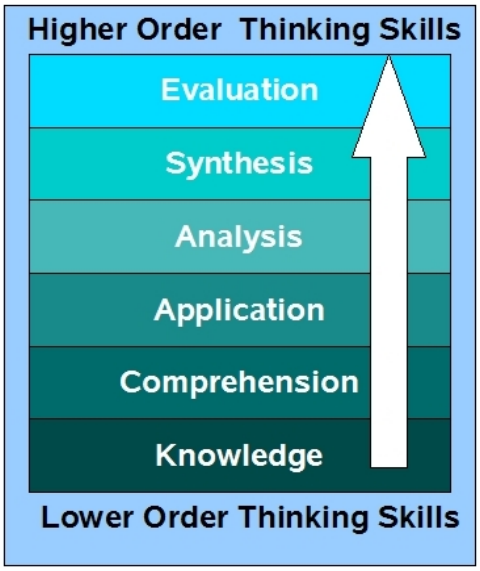
- Today's young learners are not the ones most of our teachers were trained to teach.
- Today's teacher should be a "knowledge navigator." A teacher is an adult working with young minds and trying to give them an understanding of the world in which they live and the skills to cope with what may come. Need to create learning and curriculum opportunities.

- We need to get our heads around the fact that learning can and should be anytime, anywhere. An information-rich world is at our fingertips.
- The individual has greater control over what they do and therefore has great responsibility for what they learn.
- Accepting that games can add value in terms of learning particularly in the development of problem solving skills.
- Our level of eMaturity.
- Space constrains the way in which we teach.
- The development of an effective and not restrictive eLearning Strategic Plan.
- Funding.
- Accepting the benefits of collaboration.
- We are in the introduction phase of mobile devices. This is with the user constantly and allows the user to have constant access to information, instantly. This is a personal learning device.

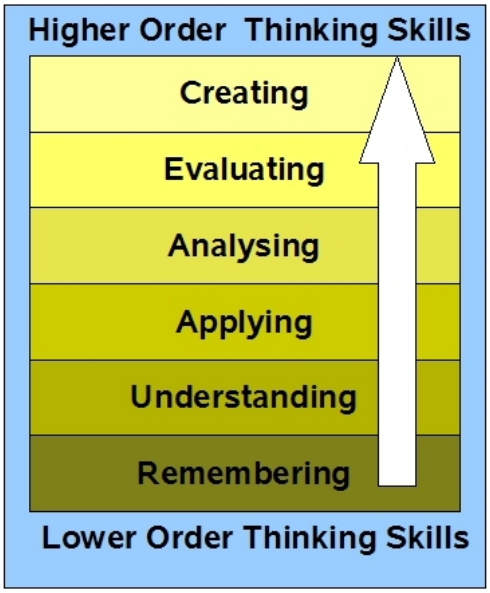


High up on the list of core values that are important for our students: *Excellence, Innovation, inquiry and curiousity.*

High up on the list of key competencies that are important for our students:*Thinking, Using Language, symbols and text.*



Bloom's Taxonomy



Bloom's Revised Taxonmy

In 1956, Benjamin Bloom developed what we call Bloom's Taxonomy, a tool in structuring and understanding the learning process. In the 1990's Bloom's Taxonomy was revised and the nouns were replaced with verbs, signifying the doing. If we compare the Higher Order Thinking Skills with the New Zealand Curriculum we can see how favourably they compare with the important values and key competencies.

Is St Catherine's College a"Networked Community"?

Are we:

paper–based

early digital

digital

early networked

networked ????????????

Our eMaturity

1. Do you as a leader of learning:

1.1 Use ICT in administering and managing learner records

1	2	3	4	5	
No					Yes, in a dedicated manner

1.2 Use ICT and eLearning to deliver learning

1	2	3	4	5	
No					Yes, in a dedicated manner

1.3 Use ICT in self assessment reviews

1	2	3	4	5	
No					Yes, in a dedicated manner

2. **To what extent do your learning programmes use a Virtual Learning Environment for the following tasks?**

2.1 To search for and download digital learning resources

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.2 To create digital learning resources

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.3 To conduct online learning assessment

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.4 To create and manage lesson plans

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.5 To customise (or personalise) learning

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.6 To facilitate online discussion forums

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.7 To support learning

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.8 As a traditional classroom teaching tool

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.9 To enable learners to access learning at any time

1	2	3	4	5	
Never					Yes, in all programmes I offer

2.10 And do learners make use of blogs, wikis and other Web 2.0 applications?

1	2	3	4	5	
Never					Yes, in all programmes I offer

3. Do you use ICT for assessing learners in any of the following ways?

3.1 To assess work and offer feedback

1	2	3	4	5	
Never					Yes, in all programmes I offer

3.2 To store and record assessments

1	2	3	4	5	
Never					Yes, in all programmes I offer

3.3 For online submission and return of work

1	2	3	4	5	
Never					Yes, in all programmes I offer

3.4 Computer marked tests

1	2	3	4	5	
Never					Yes, in all programmes I offer

A digital school is one where ALL teachers have normalised the use of technology in teaching and learning and is well advanced in using digitaltechnology to improve learner experience and outcomes.

A networked school is one that has moved from paper based to digital to a networked mode. In order for that to happen, there needs to be a shift from segmented, siloed learning to collaborative learning within and between departments, subjects, other learning communities and the wider community. This is the evolution of schooling.

Check list of what a digital school could look like:

- Effective use of varied technology
- Engaged learners
- Transformed teacher practice
- Agreed vision about learning by the whole community
- Open and collaborative learning environments
- Innovative delivery of curriculum
- Flexible learning spaces.

We want "digital take off" as we strive towards our goal of being a networked learning community!

Two important questions that need to be considered:

1. "Who is doing the most work in the classroom?"

2. How can technology be used to improve learning outcomes in a powerful and effective way?

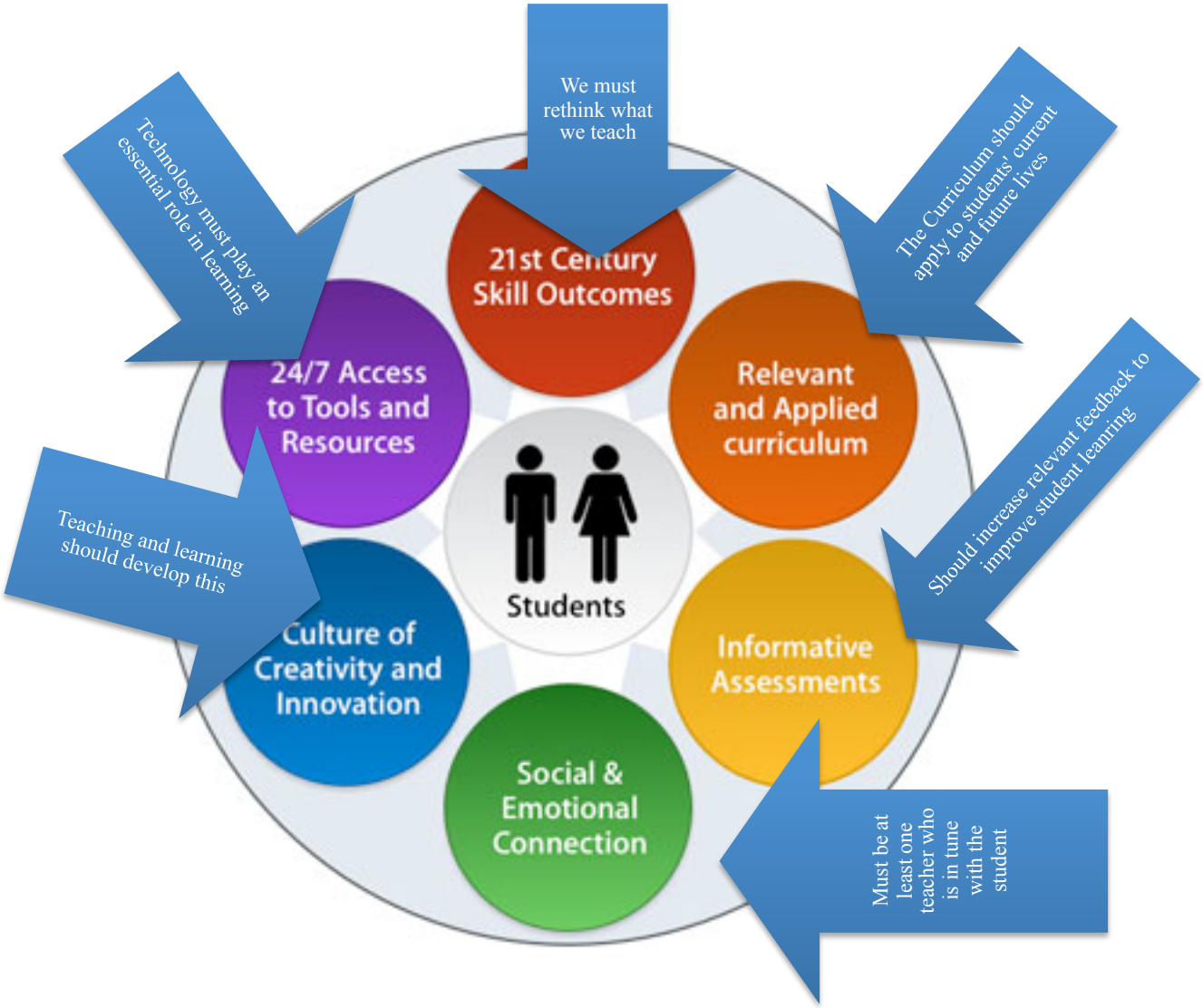
www.ted.com/talks/lang/eng/david_gallo_shows_underwater_astonishments.html

Blending into the background – that is how technology should be in our school.

Important Trends:

- Teaching and learning must be fit for purpose
- 1:1 learning is aided by technology
- Technology is owned by the student - cost shift
- Learning is mobile and permanently connected to the cloud (infrastructures are managed off site)
- Learners bypass school networks – go directly to the cloud
- Access to service shifts from the browser to the applications.
- Collaborative/sharing networks
- Simulations
- Extensive use of mobile applications
- We don't need to operate a 9am – 3pm school.

Innovative delivery of curriculum:



Apple Classrooms of Tomorrow Today (ACOT2) – Six design principles for the 21st Century high school. (http://ali.apple.com/acot2/)

Understanding of 21st Century Skills and Outcomes

Educators, students and parents must be well versed in the 21st century skills that students need to acquire to be successful. Teachers should be able to make relevant and useful choices about when and how to teach them, and whether or not students are making progress towardsdemonstrating accomplishment. Rethinking what we teach must come before we can rethink how we teach.

Relevant and Applied Curriculum

Teachers need to apply what we know about how people learn and adapt the best pedagogy to meet the needs of this generation of learners. Students should be engaged in relevant and contextual problem- and project-based learning designed to develop 21st century skills and provided using a multi-disciplinary approach. Curriculum should apply to students' current and future lives and leverage the power of Web 2.0 and

ubiquitous technologies.

Informative Assessment

Schools need to develop a variety of assessments to fully capture the varied dimensions of 21st century learning. Students need to take an independent approach in monitoring and adjusting their own learning. Assessments used in the classroom should increase relevant feedback to students, teachers, parents, and decision-makers and should be designed to continuously improve student learning and inform the learning environment.

A Culture of Innovation and Creativity

Schools should create a culture that supports and reinforces innovation for student learning and leverages the creativity and ingenuity of every adult and student to solve their unique problems. Additionally, the teaching and learning environment should generate the continuous development of these skills.

Social and Emotional Connections with Students

Personal, professional, and familial relationships determine the health, growth, and cognitive development of a child within the family, school, and community. Specifically, each student should have a clear and purposeful connection to the social environment in school, with at least one adult who is purposefully in tune with the student's learning preferences, learning interests, and social connections.

Ubiquitous Access to Technology

Technology plays an essential role in 21st century life and work and, consequently must play an important role in learning. Students and educators need 24 by 7 access to information, resources, and technologies that engage and empower them to do background research, information and resource gathering, and data analysis, to publish with multiple media types to wide and varied audiences, to communicate with peers and experts, and to gain experience and expertise in collaborative work.

Apple Classrooms of Tomorrow Today (ACOT2) – Six design principles for the 21st Century high school. (http://ali.apple.com/acot2/)

eLearning activities must be embedded in all curriculum areas. They must add value to the learning.

Research has shown that if you give students a global audience they automatically up the standard and quality of their work.

Students don't have to collaborate to learn, but often their learning is enhanced by doing so. Collaboration is a 21st Century skill of increasing importance and one that is used throughout the learning process.

In a recent blog post from the official Google blog, Google identified the following as key traits or abilities in 21st Century employees:

"... **communication skills**. Marshalling and understanding the available evidence isn't useful unless you can effectively communicate your conclusions."

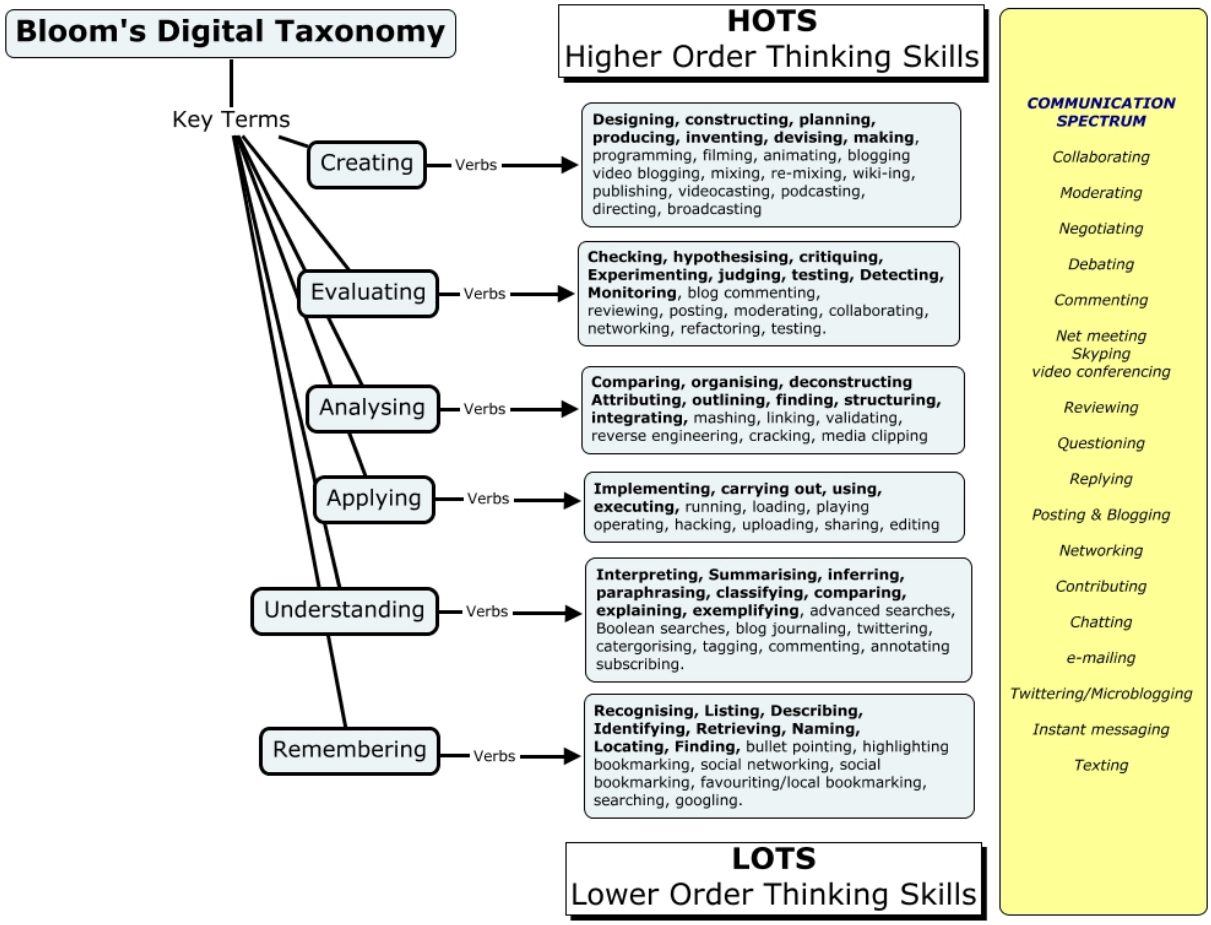
"... **team players**. Virtually every project at Google is run by a small team. People need to work well together and perform up to the team's expectations. "

Source: http://googleblog.blogspot.com/2008/07/our-googley-advice-to-students-major-in.html

So to prepare our students, our teaching should also model collaboration. A vast array of collaborative tools are available; wikis, classroom blogs, collaborative document tools,social networks, learning management systems - Many are available at no cost.

- wikis – wet paint and wiki spaces
- Classroom blogs – edublogs, classroomblogmeister, blogger
- Collaborative document tools – Google documents, zoho documents, adobe Buzzword
- Social Networks – ning
- Learning managements systems – Moodle, Blackboard, Web CT, First Class.

These tools are enablers of collaboration, and therefore enablers of 21st century teaching and learning.



In some taxonomic levels the collaboration verbs are included as an element of Bloom's Digital Taxonomy and in others it is just a mechanism which can be use to facilitate higher order thinking and learning.

Bloom's Digital Taxonomy isn't about the tools or technologies rather it is about using these to facilitate learning. Outcomes on rubrics are measured by competence of use and **most** importantly the **quality of the process or product**. For example.Bookmarking a resource is of no value if the resource is inappropriate or worthless. (edorigamy.wikispaces.com – Andrew Churches – teacher at Kristin School, Auckland)

Professional development:

Research shows students learn best when they feel they belong and feel empowered, safe and successful. An increased use of technology can provide them with new, engaging learning experiences and support the development of effective learning techniques for all learning styles. It enables students to participate and continue their learning in a safe, familiar environment, both inside and outside school. It is however, the teachers who are more hesitant and slow to engage.

The need for staff professional development is vital. We need to ensure that teachers will not stumblein their efforts to use technology because things don't work. Professional development should be focused on: research, reading and then practical application in the classroom, followed by evaluation. Without the staff on baord we will fail in our efforts to enhance student learning through the increased use of technology.

Questions to be asked of and by the staff:

- What is the relationship between questioning, thinking, learning and achievement? Powerful learning is meaningful learning. Is the learning and achievement appropriate for each student in the class?
- Is the info presented in such a way that each student can access it at a point of need and revisit it when necessary?
- Does the task lead to new insight into the topic?
- What, when, how , why, where does the learning lead – can the students articulate that back to you?
- Who is doing the most work in the classroom?
- What are you teaching, why, how, why are you teaching in this way?, Why this strategy today? Why is it working?
- How can technology be used to improve learning outcomes in a powerful and effective way?
- Are your students asking and answering pivotal questions? Because from that more questions are generated.
- ARE your questions at the "Create" level. Evaluate, monitor, check ... Your questions need to spark the curiosity of the students.
- How can you build on the prior knowledge students are bringing to the classroom, to enhance learning communities?
- How can you develop links with the local community and virtual communities to maximise learning resources and opportunities?
- What digital tools exist to support inquiry based learning and distribution of data, in a safe online community of practice?
- How can you develop learning networks across the wider school that support student pathways?
- Who might help you access the latest knowledge? How could technology make this easier?

Rubrics of good practice are: refining – redesigning and reaffirming

"For all leaders of learning …. most days should be diamonds."

Systems Issues:

- Band width is critical!!!
- Ensure an effective wireless infrastructure.
- The necessary and sufficient hardware.
- The human resources surrounding and enabling the ICT are critical – consider the ICT support and the need for an eLearning coordinator.
- Get rid of the teacher desk to ensure active involvement and supervision.

- Learning spaces
- Be careful that policies do not create unintended barriers to learning. How can we better manage risk?
- What constraints do we have within the school? A lot of technology is not allowed at school whereas in the home access is 24/7/365, with many devices left on permanently.

In order to be a networked Learning Community St Catherine's College must have:

- Leadership – not only from the Board and the principal but also teachers, parents and students
- An eLearning plan – takes the vision and says how you are going to achieve this.
- Champions and mentors – from within and without the school community.
- Teacher capability building – professional development of teachers is vital.
- Reliable technology
- Technology that is fit for purpose
- An open and collaborative culture within and without the school
- Better communication with our families because the home culture impacts on educational achievement of the students.
- A strategy to deal with those students who are economically disadvantaged to ensure they have access to technologies.
- Allow social networking sites etc – skill set acquisition can be developed. Experimentation welcome, kids as teachers – co-learners, social and moral conscience, multi-literate, empowered to have tools to shape the world. Come from a position of trust. We will believe you are doing the right thing until we catch you doing the wrong thing.

We need to shape our future. It needs to be controlled, informed, piloted and measured. It needs to respond to our teaching and learning needs, focusing on the whole school experience, not just technology. We need to be innovative and flexible.

Questions to be asked and answered:

- What equipment do we need to improve teaching and learning?
- Students bringing and using own technology – safety and security for the school network?
- We want every student to have net access. What is our current situation? How can we pool home and school resources and contributions to ensure greater affordability and access?
- How can we better work with our primary schools?
- How can we make our CEPs more accessible and easier to manage?

Some Essentials:

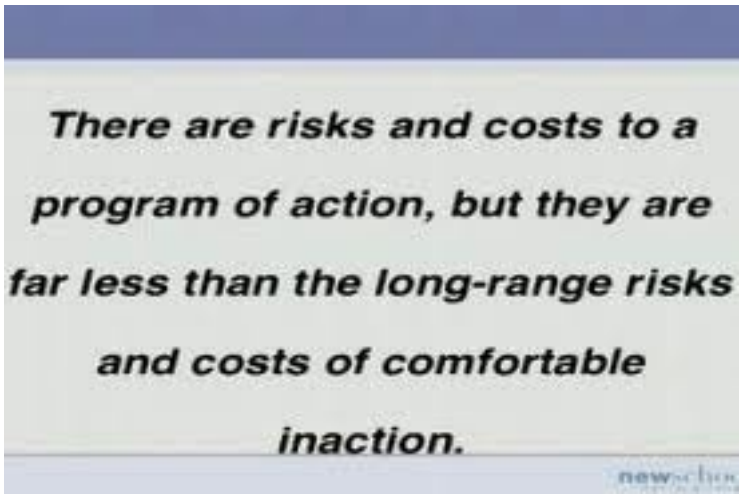
- We need to teach our students that doing research is not just a matter of doing a Google search, plagiarising the information and submitting the assignment. We need to give them the skills to be critical learners enabling them to determine the value and integrity of the information. We need to teach them the morality and ethics that surround being effective users of a wide range of information provided by an ever increasing range of sources. Teach them their obligations.Validation of source is really important. They must not take what theysee on the web as reality.
- Ensure student Cyber safety.
- We need to involve our parents.
- We need innovation, creativity, critical research, commitment and reflection.

Drive another way to work some days ... enjoy the different view.

Angus King – former governor of Maine, USAwww.youtube.com/watch?v=zZ-VwgO39kU&feature=related
(4.43 – 6.52)

As we move into a networked mode we are striving towards working smarter and not harder. Schooling is changing we need to move with it and be ahead of our game. We must respond with agility to change.

Education must be about: diversity, innovation, flexibility and being fleet-footed.



AND … used effectively, technology will open up learning opportunities for all pupils in the College and will extend learning outside the classroom and the College. Effective communication and collaboration help make teaching more efficient. Technology also enables school leaders to develop new practices to manage and monitor learning and teaching outcomes.

You don't get ahead of the competition by keeping up.

Innovation is risky!

Jane Holloway
Principal
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