How do we realise the potential of ICT to transform schools so we can prepare our students for their future?

Louise Bowe and Lynn Davie Innovations Branch, DE&T Victoria
Goals:
All students will leave school as ‘confident creative and productive users of new technologies, including information and communication technologies, and understand the impact of those technologies on society’.
Goals:
All schools will seek to integrate information and communication technologies into their operations, to improve student learning, to offer flexible learning opportunities and to improve the efficiency of their business practices.
• ICT can transform how we learn and what we learn

• ICT should be available to all students anytime, anywhere, expanding the time and space for learning and teaching.
Evolution of Instructional Technology

Prepared by Marco Torres San Fernando HS
Read pages 1 through 10
Answer questions 1 - 4
Read pages 1 through 10

Answer questions 1-4

1970
Read pages 1 through 10
Answer questions 1-4
2001
Answer Questions 1-4
Preparing students for their future...

Knowledge Era Movie

Reflection task
“21st Century education integrates technologies, engaging students in ways not previously possible, creating new learning and teaching possibilities, enhancing achievement and extending interactions with local and global communities.”

Contemporary Learning - Learning in an Online World MCEETYA 2005
Educational Leadership

December 2005/January 2006 | Volume 63 | Number 4
Learning in the Digital Age | Pages 8-13

Listen to the Natives

Schools are stuck in the 20th century. Students have rushed into the 21st. How can schools catch up and provide students with a relevant education?

Marc Prensky

School didn’t teach me to read—I learned from my games.

—A student

Educators have slid into the 21st century—and into the digital age—still doing a great many things the old way. It’s time for education leaders to raise their heads above the daily grind and observe the new landscape that’s emerging. Recognizing and analyzing its characteristics will help define the education leadership with which we should be providing our students, both now and in the coming decades.

Times have changed. So, too, have the students, the tools, and the requisite skills and knowledge. Let’s take a look at some of the features of our 21st century landscape that will be of utmost importance to those entrusted with the stewardship of our children’s 21st century education.

Digital Natives

Our students are no longer “little versions of us,” as they may have been in the past. In fact, they are so different from us that we can no longer use either our 20th century knowledge or our training as a guide to what is best for them educationally.

I’ve coined the term digital native to refer to today’s students (2001). They are native speakers of technology, fluent in the digital language of computers, video games, and the Internet. I refer to those of us who were not born into the digital world as digital immigrants. We have adopted many aspects of the technology, but just like those who learn another language, we lose our native facility with it...
Our students are Techno-savvy “screen-agers” and gamers who are the most wired most connected globalised citizens in history. They think differently and see the world differently using ICT despite the schooling system.
Today’s kids are different than kids were 15 years ago. They learn differently and as a result feel disconnected from schools that were designed for another time.

These digital kids take in and respond to rapidly transmitted sights and sounds whether on television, computers, or video games.
Digital natives want to learn...

- With technology
- With each other
- Online
- In their time
- In their place
- Doing things that matter
“Students are not just using technology differently today, but are approaching their life and their daily activities differently because of the technology.”

--Net Day “Speak-up Day” Summary
A step inside a school on a journey of transformation...
- eLearning **integral** to the **vision** of the school
- **Leadership** in supporting individual, team and **whole** school change
- **School structures** that support teacher growth and development
- Opportunities for **sustained Professional learning**
- Sound **pedagogical foundations** focusing on powerful learning enabled by ICT’s
- **Time** to learn **about** and learn **with technology**
“New technologies can help transform schools - but only if they are used to support new models of teaching and learning”

“If technology is simply used to automate traditional models of teaching and learning, then it will have very little impact on schools”

Professor Chris Dede
Graduate School of Education
George Mason University
Available to all students and all teachers...
anytime, anywhere.
For a range of purposes.
How can we use:

- Digital Cameras
- Mobile Phones
- PDA’s
- GPS
- iPods
- IWB’s
- Software

To enable learning **new things** in **new ways**.
Case Study: Courage to Care
After reading Hana's Suitcase in an English class, Orbost SC students interviewed a holocaust survivor to find out more about life in Nazi Germany.

Through internet based video conferencing, 2 classes were able to connect to Kitia Altman, a concentration camp survivor and published author based in Melbourne. Kitia communicated with the classes through a private home computer with regular internet access and an inexpensive web cam. The Orbost students, watched her on their interactive electronic whiteboard. Kitia showed many photographs throughout the one hour lesson and answered students' questions, relating her experiences to modern day issues such as bullying and discrimination.
Powerful Learning
ICT can transform how we learn and what we learn.

Ascot Vale PS
Animation
Look-4My-Book

Johnathon Pearce
Bellaire PS
-Blogging
-Desk top publishing
-Adapted from:
-Book Crossing

Hi, you have found one of Bellaire Primary School’s Middle J’s little books. Even though you found the book, it isn’t lost; it is just on a journey.

In Middle J we have been making lots of these little books using Microsoft Publisher. We are quite proud of our books and are sure that lots of you out there would like to read them also.

Rather than just loan our books out like a library we decided to give the books a bit of an adventure. Firstly we put our books in these special wallets with this note to explain what to do with them. Next we put the wallets in different places around the school for people to “find” and then take home to read. The next thing you need to do is to log on to our Look-4My-Book Blog. To get to the blog you need to go on the internet and go to

http://manila.bellaireps.vic.edu.au/booklook/about

When you have found our blog we would like you to make a Comment to our authors about the book. You might like to tell us what you thought of the book. You might also like to tell us a bit about yourself and maybe where you took our book too. Of course you can also read the Comments that other people have made. We will certainly be reading all of them.

To make a Comment you will need to join our blog by clicking on the “Join Now” link in the bottom left hand corner of the main page. To join, you will need an email address and be able to think of a Password you can remember. Once you have logged in then you only need find the name of your book in the list on the left hand side menu and click on it. You will then find a page with the cover of your book and a “Comment On This Page” link. Click on this link and you can add your comment. Please be aware that your comments will be read by primary aged children. NB any inappropriate comments will be deleted.

Once you have finished reading the book and have made a Comment, please put the book back in its pocket and take it to a new special “drop spot” for the next lucky reader to find. Good drop spots are quiet places where people like to sit or meet. By the way, try not to be seen “dropping off” the books. That way it will be more of a surprise for the finder.

As this is a trial to see what can happen to our books we would like to get the books back to Room 11 sometime near the end of November this year. 2005. Also because Mr. P will require us to make another copy of the book if this one gets lost please take care of the book. Please also make sure this sheet stays in the wallet.

PS Keep your eyes open for other Middle J Books too.
QuickTime™ and a TIFF (LZW) decompressor are needed to see this picture.
Processing
Thinking
and Learning
I like Autumn because it is fun to jump in the leaves.
NIPS XI - Racism

The three blond boys at the cricket club made some racist comments to Lan and his friends. How do you think these comments would affect them?

Where do you think people get their racist attitudes?

Make your comments and about the above statements.

**Topics**

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<th>User</th>
<th>Date</th>
<th>Comments</th>
<th>User</th>
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<tr>
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<tr>
<td>Susan</td>
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I think that the three blondes are stuck up and stupid to call a Vietnamese a Nip. I think being called a Nip is down putting and unfair to Lan and the others because they can't help the way they look. I think they get their stupid racism from the news and maybe even older people.

I think it is mean what people say about Lan because he wouldn't feel that good when other people call him a 'NIPS' and so he would try and act like an Australian.

I believe that rude racial comments are produced only by imbosils and blonde try hard boys that think themself better than others. A preference in social justice is compulsory for an amiable and nonbelligerent world. We need to reciprocate all culprits of this indecent crime.

I think that people shouldn't call others names. How would you like it if someone came up to you and called you a nip. That's what Lan would feel like: hurt and Angry. It may be alright when a close friend does it, but strangers?
This forum was used to track students thinking throughout the course of a unit of work.

This forum allows you to record your discoveries and wonderings about WATER as we progress through our integrated unit.

- WONDERINGS - 31 Jul 03 - 79 comments
- DISCOVERIES - 31 Jul 03 - 78 comments

Enter Forum
<table>
<thead>
<tr>
<th>Comments</th>
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<tr>
<td><strong>Re: Yellow Hat</strong></td>
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<td>The third pipe can be used for flushing the toilet and using on the garden. This idea would save 50% of the fresh water that is currently supplied to houses and factories.</td>
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| **Re: Yellow Hat** | 10 Sep03 | Mietta |
| I think that putting a 3rd pipe in would be a great thing because it would save fresh water and we wouldn’t have to use fresh water for flushing toilets because 30-40% of fresh water goes to the gardens and 18% on toilet flushing and the idea would save 50% of fresh water. |

| **Re: Yellow Hat** | 10 Sep03 | Courtney |
| lizzi and I think the advantage of this idea are it will be a good idea to save water as Australia is one of the driest continent in the world, Because we have lots and lots of drought. |

| **Re: Yellow Hat** | 10 Sep03 | Jordan |
| the thrid pipe should be alot cheaper to buy insted of beening deer |

| **Re: Yellow Hat** | 10 Sep03 | Tyson |
| This idea is great, because we can save our water in a drought situation and money also we could give some water to third world countries and help them a bit. |

| **Re: Yellow Hat** | 10 Sep03 | Amy |
| The third pipe will be cheaper and will help recycle lots of water. |

| **Re: Yellow Hat** | 10 Sep03 | Mark |
| you will save money |

| **Re: Yellow Hat** | 10 Sep03 | James |
| A good point is that it would be cheaper to have a third pipe. |

| **Re: Yellow Hat** | 10 Sep03 | Jemma |
| I think using A-class water would be a great idea because Australia is going through drought and installing a third pipe would help to prevent drought. |
The discussion foyer is a property where teachers and students can enter into discussion rooms to engage in real time online discussion with other users in their school.
Alexandra O'Brien

Topic: Home, iMovies, Science Stuff, Flash, Claymation, Australian History
Page: 1, 2

FLASH
THE GREENHOUSE EFFECT!!!

EXPLANATION:
For this Greenhouse effect task Mrs Mac told Hannah and I to create an animation on the greenhouse effect so we did that (using Flash).
WHAT DID I LEARN?:
I learnt alot about the greenhouse effect.
I also learnt alot about Flash.
So that was fun!
HOW DID I GO? WHAT WAS GOOD? WHAT COULD I DO BETTER NEXT TIME?:
It was the best thing that I had done on Flash, I was really pleased with what I did and it was pretty good.
I wouldn’t change alot but I could of added more sound.
ACTION PLAN:
Next time all I really have to do is add more sound.

THIS IS HOW IT TURNED OUT!!!

The Greenhouse effect is when the earth heats up from the gases that get trapped inside the atmosphere.
When the earth heats up that is called GLOBAL WARMING.

Help!
the earth is on fire!

Note from Mrs. Mc:
Alex, this is truly awesome! You were the first person to actually create something related to our learning in Flash. I know that this was really involved - exporting it to fit into eTools and I congratulate you for your creativity and your persistence.
Well done superstar!!
- active and critical learning
- decision-making
- experiential learning
- experimentation
- visualisation
- game formats
- investigation and inquiry
- modelling
- problem-solving
- research
- simulation
Digital Content has the potential to allow learners to tinker with scenarios, making it easier to grasp complex concepts and transfer understandings to practical problems.

Considerations:

- Individualised instruction
- Discipline expertise
- Embed in rich curriculum activities to ensure “just in time”, not “just in case”
What are its strengths as a creation tool? 
How are teachers using it with their students?
Potential to prepare students for their future
• develop new thinking and learning skills that produce creative and innovative insights

• develop more productive ways of working and solving problems individually and collaboratively

• create information products that demonstrate their understandings of concepts, issues, relationships and processes
Encouraging students to...

• express themselves in contemporary and socially relevant ways

• communicate locally and globally to solve problems and to develop and share knowledge

• understand the implications of the use of ICT and their social and ethical responsibilities as users of ICT
• What powerful learning was evident?
• How was powerful learning promoted?
• What messages can we take from this to consider in our own practice?
Reflection

What are the **key questions and issues** that need to be addressed if we are to realise the potential of ICT as an enabler for school transformation?

What do you consider to be the **key ingredients** for making ICT pervasive in our schools and to enable schools to continue to move to using ICT effectively for teaching and learning?
System Capacity:

How organised and capable is the system for scaling and sustaining the change in order to ensure results for all students?

Technology Development:
How robust and pervasive is the technical infrastructure in supporting new ways of teaching and learning for all students?
Readiness for Change:
How prepared and capable are we for activating new ways of teaching and learning?

Teaching and Learning:
What new ways of teaching and learning are enabled through using ICT to transform teaching and learning - adding value that makes a difference for all students?
21st Century Curriculum

Core Subjects - core academic content

Learning Skills - need more than core subjects

21st Century Tools - incorporating ICT

21st Century Context - relevant, connections, authentic, contexts for info age

21st Century Content- Content essential for preparing students

New Assessment - measure 21st Century skills
Natimuk PS
In My Day

What 21st Century Curriculum is evident?
Show teachers what is **POSSIBLE**.

Support teachers to realise the **POTENTIAL** by ensuring curriculum design incorporates ICT used in visionary ways, valuing and harnessing the creative potential of ICT to enable transformation of learning and teaching.
Thank you for the opportunity

davie.lynn.e@edumail.vic.gov.au
bowe.louise.f@edumail.vic.gov.au

QuickTime™ and a Photo - JPEG decompressor are needed to see this picture.