THE OPEN ROAD

highway to the future of technology in education

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The Dusty Information Super Highway

"The open road,
the dusty highway...
Here today, up and off
to somewhere else
tomorrow!

The whole world before
you, and a horizon that's
always changing!"

Said Toad.
The Wind in the Willows
Kenneth Graeme

Donna Benjamin – the open road

- Who I am not!
- Education revolution
- Standards
- The future – utopia or distopia

One Laptop per Child

"It's an education project not a laptop project"

Nicholas Negroponte

www.laptop.org

"The biggest barrier to improving education for children, with or without computers, is the completely impoverished imaginations of most adults."

Alan Kay

Sugar – Constructivist Computing

The XO exists because Free Software exists.

Free Software developers helped make it happen.

Sugar is radical.

www.sugarlabs.org

And wonderful.

Thank you Walter.

OLPC around the world

OLPC Pakistan

http://wiki.laptop.org/go/PAKISTAN

OLPC Nepal

Teachers professional learning with the e-paati

Proud kids with their new electronic learning platform

OLPC Haiti

Squeak – eToys
teaching teachers
to teach programming

Waveplace raises money to purchase laptops for Caribbean children.

Waveplace creates training materials that teach digital media skills.

Waveplace inspires teachers to use computers in new ways.

Niue: 1-1 XO deployment

Teacher Preparation...

... and professional learning is critical!

Teachers around the world are taking time to explore the XO and experience a new way of teaching...

Free and Open Source Software is at your fingertips to explore, tinker with, develop your own materials, share them with others and work together to improve them.

Changing the World

Hrmmmm...

Acer Aspire One ACR9034
only **$313** ex GST each (Win XP)
Acer Aspire One ACR9000
only **$469** ex GST each (Linux)

DEECO Panel Price

The Aspire One is Acer's first 8.9" Netbook powered by the latest Intel® Atom™ processor technology, providing leading performance. Weighing less than 1kg and designed with mobility in mind the Aspire one features a 8.9 inch widescreen, Crystal Eye Webcam, and 8GB / 120GB storage capacities for Windows® and Linux operating systems.

8.9" Display, 1024 x 600 resolution
Intel® Atom CPU & 945 GSE Chipset
Windows® XP Home / Linux
1GB DDR2 (XP) / 512MB DDR2 (Linux)
120GB (2.5" HDD) Microsoft Windows OS Version
8GB (Internal flash) Linux OS Version
HD audio / built-in speakers
Built-in 10/100 LAN, Built-in 802.11b/g/ WLAN
5 in 1 Card reader (SD, MMC, MS, MS PRO, XD)
Dedicated SD Card reader for storage
Crystal Eye Webcam
3xUSB, VGA-out, earphone jack, mic
24.9cm(W) x 17.0cm(D) x 2.9cm(H)
Weight 0.98 kg
3 Year Pick up Return Warranty

Rudd's Digital Education Revolution

National Secondary School Computer Fund
  One computer per senior secondary student.

Commonwealth funds / State implementation

Blueprint for deployment
  "Better Practice Guide: ICT in schools"
      - Netbooks
      - Open Source
      - Thin Clients
      - Professional Learning

http://www.digitaleducationrevolution.gov.au/resources/guide/about/default.htm

It's the people, stupid.

The ***technical*** issues are ***easy*** to solve.
The ***social*** problems are the real ***challenge***.

I'm terrified of this project. Not terrified for me, but for the 70% of teachers at my school that refuse to use technology with the students.

We need to change the syllabus and integrate the ICT resources into all subjects.

Comment by "Marko"

http://paralleldivergence.com/2008/06/01/australias-digital-education-revolution/
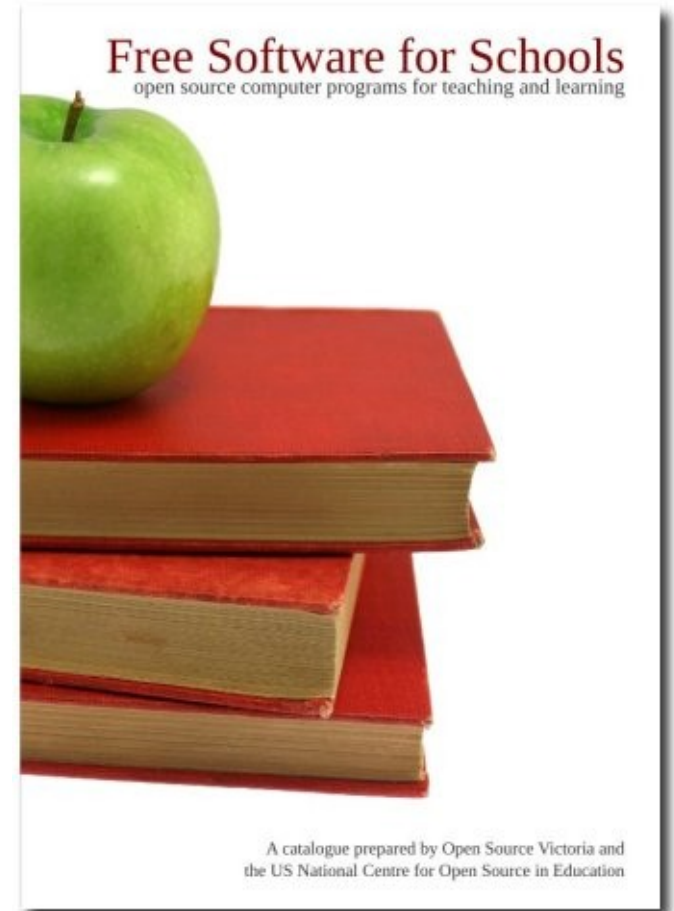
Work in Progress

FOSS VELS:
matrix matching FOSS
to the Victorian prep
to Yr10 curriculum.

Free Software for Schools:
a catalog of FOSS produced
by Open Source Victoria
and National Center for
Open Source in Education.

VICTORIAN ESSENTIAL LEARNING STANDARDS
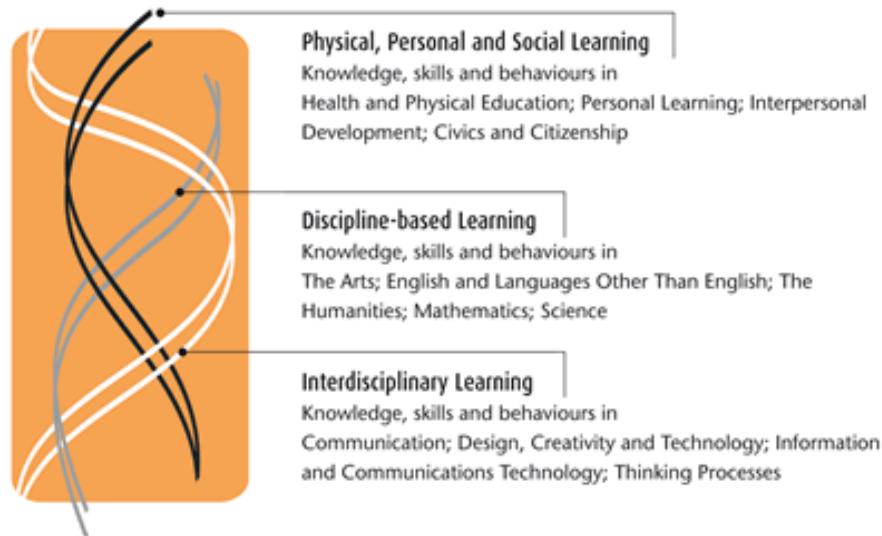## A WHOLE SCHOOL CURRICULUM PLANNING FRAMEWORK

Three interwoven purposes

To equip students with capacities to:

manage themselves and their relations with others
understand the world and
act effectively in that world

to prepare them for success in education, work and life.

This is achieved through the three core, interrelated strands of

Physical, Personal and Social Learning
Knowledge, skills and behaviours in
Health and Physical Education; Personal Learning; Interpersonal
Development; Civics and Citizenship

Discipline-based Learning
Knowledge, skills and behaviours in
The Arts; English and Languages Other Than English; The
Humanities; Mathematics; Science

Interdisciplinary Learning
Knowledge, skills and behaviours in
Communication; Design, Creativity and Technology; Information
and Communications Technology; Thinking Processes

across the stages of learning

Years Prep to 4	**Years 5 to 8**	**Years 9 to 10**
Laying the foundations	Building breadth and depth	Developing pathways

underpinned by educational purposes, principles and values

to form

Victorian Essential Learning Standards
a framework for whole school curriculum planning

Schools plan their teaching and learning programs, using the three strands, to enable
their students to achieve the essential statewide learning standards.

Figure 1: Whole school curriculum plan

VELS =
Victorian
Essential
Learning
Standards

ISTE NETS

- Facilitate and Inspire Student Learning and Creativity

- Design and Develop Digital-Age Learning Experiences and Assessment

- Model Digital-Age Work and Learning

- Promote and Model Digital Citizenship and Responsibility

- Engage in Professional Growth and Leadership

International Standards

Europe - IDEALS

Improving Distance Education and (ICT) Learning Standards
http://phosphorus.it.kth.se/ideals/

Asia - KERIS

Korea Education and Research Information Service
http://english.keris.or.kr/es_online/es_online.html

Africa – Cape Town Declaration
Open Education – Participate, S
http://www.capetowndeclaration.org/

Standards Shmandards
http://www.learnativity.com/standards.html

The Future
is Open.

It has to be.

Future scenarios

	Under the Volcano	A Farewell to Arms	The Grapes of Wrath	The Magic Mountain
Defining characteristic	The great divide	Community	Fear	Corporatisation
Society	Polarised Intolerant Resentful Pessimistic Personalised values	Harmonious Appreciative Optimistic Tolerant Feminised values	Disintegrating Pessimistic Intolerant Sustainability of kinship groups Survival values	Corporate loyalty Competitive Marginalised underclass Ambivalent Male-dominant values
Education	For haves and have nots Individualism Personal growth Vocational	Centre of community Individualised self-paced learning plans Well balanced	Local fortress Protection Social havens	Corporate ethos Privatised Profit-driven Vocational
Teacher's role	Facilitate diversity Agents of integration Safety net for have nots Diminished status	Multi-tasking Social Collaborative Trusted and well respected	Social, pastoral and health care Cross-cultural Model inclusiveness High status due to pastoral care role	Achieving measurable student outcomes Value-adding Highly respected and well rewarded
Family life	Cult of youth Small nuclear Family/work balance	Children highly valued Resurgence of extended family	Children provide cheap labour Protective urban/rural tribes	Children are assets Global orientation
Role of technology	Pervasive Social differentiator Focus on innovation and ideas Surveillance	Social integrator	Irrelevant Focused on science for survival	Integral Customised biotechnology
Immigration	Creates pressure	High Drives innovation Underlines social cohesiveness	Indigenous focus Flood of illegal immigrants Racial tension	Asia focus
The economy	Unequal access to wealth Great divide User pays approach	Stable and strong Companies collaborate Traditionally resource based	Global recession Survival economy Crumbling infrastructure Scarcity of jobs and resources	Global wealth Competitive Innovative
Politics	Highly centralised	Global alliance	Fragmented	Global corporate alliances No local voice for people
The environment	Climate change managed by technology and regulation	Social focus on better futures using clean energy	Harsh, unpredictable climate	Corporate competition for control of resources

Under the Volcano

polarised society
tension
youth / innovation / ideas valued
generational shift
individualism
drugs enhance performance
family / work balance
pervasive technology
ready to
explode
the great divide
schools for
haves and
have nots

tolerant
optimistic
community engagement
socially cohesive
family life valued
green technology
economy less important than family values
gender balance
innovation
sustainability
schools
respected

A Farewell to Arms

The Grapes of Wrath

troubled

fear pessimistic

intolerant

besieged

gated communities

harsh climate

focus on subsistence

flood of immigrants

racial tension recession

food as currency

crumbling society

scarcity of jobs / resources

pandemics

schools as havens

The Magic Mountain

corporations control health, welfare, utilities and education

marginalised underclass

smaller government

strong economy

asian superpower

competitive

globalisation

ambivalent

fully integrated technology

customised biotechnology

vocational innovation

schools privatised & profit driven

What is your future scenario?

What's your first step?

Donna's random rant.

- Teaching programming is absolutely critical for open source success.

- Engage kids to contribute to foss projects.

- Not training. Provoke kids to explore computing fundamentals by creating games.

- Consuming / Using tech is not sufficient...

- We must create, innovate and improve our tech tools, and supporting material.

"The Working Group considered that the focus should be on teaching fundamental ICT principles, useful as a foundation for further study, rather than on specific programming areas."

Building Australian ICT skills:
  Report of the ICT skills foresighting working group May 2006
  http://www.e-scc.org/docs/Building_Australian_ICTskills.pdf

Overcome fear, uncertainty & doubt

The shy, timid, and scared must be invited to contribute. If something doesn't work,
help them learn to submit good bug reports...

"It's broken"

Is not helpful, whereas

"When I click on the node icon in Inkscape, the application crashes my ubuntu machine"

Can be used to find the problem
and empower the reluctant.

Share your Stuff

- Teachers are part of the open source community. Use FOSS tools to connect to each other, share your pedagogy – share your learning materials.

- Give kids authentic ICT tasks – create for the world.

- Open Minds – Open Source, Open Knowledge, Open Learning.

Resources

Proper References

Freeman, Oliver. *Teaching for uncertain futures: the open book scenarios*. Teaching Australia, Feb 2008.
http://www.teachingaustralia.edu.au/ta/webdav/site/tasite/shared/OBS/Teaching%20for%20Uncertain%20Futuresfeb08.pdf

Moyle, Kathryn. *Leadership and Learning with ICT - Voices from the Profession* Teaching Australia, Aug 2006
http://www.appa.asn.au/cms/uploads/articles/leadership%20and%20learning%20with%20ict.pdf

Pedagogy Strategy : Learning in an online world. MCEETYA, 2005.
http://www.mceetya.edu.au/verve/_resources/pedagogy_strategy_file.pdf

Thomas, Gillian and Matthew Horne. *Using ICT to share the tools of the teaching trade:A report on Open Source Teaching*. BECTA Feb 2004
http://www.becta.org.uk/page_documents/research/open_source_teaching.pdf

Hayes, Terry. *Professional teaching associations and professional standards* Teaching Australia Sep 2006
 http://tinyurl.com/3e83nm

Webb, Ian. *National computing studies summit: Open learning approaches to computing studies*. Australian Educational Computing Vol.23 No.1 – 2008
http://www.acce.edu.au/uploads/documents/store/resources/res_1124_AEC_vol23_1_2008.pdf

Collected Links

OLPC – Teacher Preparation Resources
http://delicious.com/kattekrab/olpc-teacherprep

Australia's Digital Education Revolution
http://delicious.com/kattekrab/DER

General Stuff I thought was kinda interesting whilst preparing this talk
http://delicious.com/kattekrab/k12openminds