It’s a Collaborative World

a-trsmit@microsoft.com
thinking about the classroom experience
we can start by

looking back
to the skills required by yesterday’s workplace
it is clear that today's workplace has evolved
but our classrooms have not
Look familiar????

It’s the work that’s different
Imperatives for Change

"What matters most is being first."
"But why are we in this race?"
"Shut up and keep running!"
we need to

be more ambitious
Cosmos

www.chronozoomproject.com
What if?

we need to ask

www.chronozoomproject.com

What if?
Food for thought
Skills required are changing....

60%

Of all higher education courses will be taken ONLINE by 2020

Source: Chronicle Research Services | The 2020 College
The changing demand on education
The skills required for today's economy

Source: How computerized work and globalization shape human skill demands. Levy and Murnane, 2005
Talent Mismatch Drives Unemployment Shift

Even as the economy recovers, may be gone for good.
A chorus of economists and labor "natural" or "structural" rate of unemployment is that Americans looking for jobs are finding it harder to find work, even with economic growth.

The so-called natural unemployment rate, according to Mark Viner, 7%, is somewhere between 4% and 6%.

"Businesses are looking to hire, but the workers they are looking for are in short supply," Viner said.

Slightly more than half of U.S. businesses are having trouble finding qualified candidates, according to a survey released today of 1,322 U.S. business leaders by ManpowerGroup. In 2010, only 14% of respondents had similar grapples with talent.

"There's a talent mismatch," said Jeff Joerres, CEO of ManpowerGroup, "that demand in most industries is not so robust that [firms] need to restructure in order to find the right people.

Natural unemployment rate is a theoretical measure of what share of the workforce is unemployed under ideal conditions given the underlying structure of the labor market. Some economists and observers say that the structure of the labor market is not one of the reasons for the recession.

Since 1996, the natural unemployment rate has hovered between 4% and 6%, according to a periodic survey by the Federal Reserve Bank of Philadelphia, which uses the rate to make forecasts and projections.
Physical Learning Settings/Modalities
(Ken Fisher - Linking pedagogy and space, Fielding & Nair)
Understanding Virtual Pedagogies for Contemporary Teaching & Learning
## 2009 results

<table>
<thead>
<tr>
<th>Country</th>
<th>On the overall reading scale</th>
<th>Access and retrieve</th>
<th>Integrate and interpret</th>
<th>Reflect and evaluate</th>
<th>Continuous texts</th>
<th>Non-continuous texts</th>
<th>On the mathematics scale</th>
<th>On the science scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD average</td>
<td>493</td>
<td>495</td>
<td>493</td>
<td>494</td>
<td>494</td>
<td>493</td>
<td>496</td>
<td>501</td>
</tr>
<tr>
<td>Shanghai-China</td>
<td>556</td>
<td>549</td>
<td>558</td>
<td>557</td>
<td>564</td>
<td>539</td>
<td>600</td>
<td>575</td>
</tr>
<tr>
<td>Korea</td>
<td>539</td>
<td>542</td>
<td>541</td>
<td>542</td>
<td>538</td>
<td>542</td>
<td>546</td>
<td>538</td>
</tr>
<tr>
<td>Finland</td>
<td>536</td>
<td>532</td>
<td>538</td>
<td>536</td>
<td>535</td>
<td>535</td>
<td>541</td>
<td>554</td>
</tr>
<tr>
<td>Hong Kong-China</td>
<td>533</td>
<td>530</td>
<td>530</td>
<td>540</td>
<td>538</td>
<td>522</td>
<td>555</td>
<td>549</td>
</tr>
<tr>
<td>Singapore</td>
<td>526</td>
<td>526</td>
<td>525</td>
<td>529</td>
<td>522</td>
<td>539</td>
<td>562</td>
<td>542</td>
</tr>
<tr>
<td>Canada</td>
<td>524</td>
<td>517</td>
<td>522</td>
<td>535</td>
<td>524</td>
<td>527</td>
<td>527</td>
<td>529</td>
</tr>
<tr>
<td>New Zealand</td>
<td>521</td>
<td>521</td>
<td>517</td>
<td>531</td>
<td>518</td>
<td>532</td>
<td>519</td>
<td>532</td>
</tr>
<tr>
<td>Japan</td>
<td>520</td>
<td>530</td>
<td>520</td>
<td>521</td>
<td>520</td>
<td>518</td>
<td>529</td>
<td>539</td>
</tr>
<tr>
<td>Australia</td>
<td>515</td>
<td>513</td>
<td>513</td>
<td>523</td>
<td>513</td>
<td>524</td>
<td>514</td>
<td>527</td>
</tr>
<tr>
<td>Netherlands</td>
<td>508</td>
<td>519</td>
<td>504</td>
<td>510</td>
<td>506</td>
<td>514</td>
<td>526</td>
<td>522</td>
</tr>
<tr>
<td>Belgium</td>
<td>506</td>
<td>513</td>
<td>504</td>
<td>505</td>
<td>504</td>
<td>511</td>
<td>515</td>
<td>507</td>
</tr>
<tr>
<td>Norway</td>
<td>503</td>
<td>512</td>
<td>502</td>
<td>505</td>
<td>505</td>
<td>498</td>
<td>498</td>
<td>500</td>
</tr>
<tr>
<td>Estonia</td>
<td>501</td>
<td>503</td>
<td>500</td>
<td>503</td>
<td>497</td>
<td>512</td>
<td>512</td>
<td>528</td>
</tr>
<tr>
<td>Switzerland</td>
<td>501</td>
<td>505</td>
<td>502</td>
<td>497</td>
<td>498</td>
<td>505</td>
<td>534</td>
<td>517</td>
</tr>
<tr>
<td>Poland</td>
<td>500</td>
<td>500</td>
<td>503</td>
<td>498</td>
<td>502</td>
<td>496</td>
<td>495</td>
<td>508</td>
</tr>
<tr>
<td>Iceland</td>
<td>500</td>
<td>507</td>
<td>503</td>
<td>496</td>
<td>501</td>
<td>499</td>
<td>507</td>
<td>496</td>
</tr>
<tr>
<td>United States</td>
<td>500</td>
<td>492</td>
<td>495</td>
<td>512</td>
<td>500</td>
<td>503</td>
<td>487</td>
<td>502</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>499</td>
<td>508</td>
<td>498</td>
<td>498</td>
<td>495</td>
<td>506</td>
<td>536</td>
<td>520</td>
</tr>
<tr>
<td>Sweden</td>
<td>497</td>
<td>505</td>
<td>494</td>
<td>502</td>
<td>499</td>
<td>498</td>
<td>494</td>
<td>495</td>
</tr>
<tr>
<td>Germany</td>
<td>497</td>
<td>501</td>
<td>501</td>
<td>491</td>
<td>496</td>
<td>497</td>
<td>487</td>
<td>508</td>
</tr>
<tr>
<td>Ireland</td>
<td>496</td>
<td>498</td>
<td>494</td>
<td>502</td>
<td>497</td>
<td>496</td>
<td>487</td>
<td>508</td>
</tr>
<tr>
<td>France</td>
<td>496</td>
<td>492</td>
<td>497</td>
<td>495</td>
<td>492</td>
<td>498</td>
<td>497</td>
<td>498</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>495</td>
<td>496</td>
<td>499</td>
<td>493</td>
<td>496</td>
<td>500</td>
<td>543</td>
<td>520</td>
</tr>
<tr>
<td>Denmark</td>
<td>495</td>
<td>502</td>
<td>492</td>
<td>493</td>
<td>496</td>
<td>493</td>
<td>503</td>
<td>499</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>494</td>
<td>491</td>
<td>491</td>
<td>503</td>
<td>492</td>
<td>506</td>
<td>492</td>
<td>514</td>
</tr>
</tbody>
</table>
## PISA 2012

<table>
<thead>
<tr>
<th>Country</th>
<th>Mathematics Mean score in PISA 2012</th>
<th>Share of low achievers in mathematics (Below Level 2)</th>
<th>Share of top performers in mathematics (Level 5 or 6)</th>
<th>Annualised change in score points</th>
<th>Reading Mean score in PISA 2012</th>
<th>Annualised change in score points</th>
<th>Science Mean score in PISA 2012</th>
<th>Annualised change in score points</th>
</tr>
</thead>
<tbody>
<tr>
<td>OECD average</td>
<td>494</td>
<td>23.1</td>
<td>12.6</td>
<td>-0.3</td>
<td>496</td>
<td>0.3</td>
<td>501</td>
<td>0.5</td>
</tr>
<tr>
<td>Shanghai-China</td>
<td>613</td>
<td>3.8</td>
<td>55.4</td>
<td>4.2</td>
<td>570</td>
<td>4.6</td>
<td>580</td>
<td>1.8</td>
</tr>
<tr>
<td>Singapore</td>
<td>573</td>
<td>8.3</td>
<td>40.0</td>
<td>3.8</td>
<td>542</td>
<td>5.4</td>
<td>551</td>
<td>3.3</td>
</tr>
<tr>
<td>Hong Kong-China</td>
<td>561</td>
<td>8.5</td>
<td>33.7</td>
<td>1.3</td>
<td>545</td>
<td>2.3</td>
<td>555</td>
<td>2.1</td>
</tr>
<tr>
<td>Chinese Taipei</td>
<td>560</td>
<td>12.8</td>
<td>37.2</td>
<td>1.7</td>
<td>523</td>
<td>4.5</td>
<td>523</td>
<td>-1.5</td>
</tr>
<tr>
<td>Korea</td>
<td>554</td>
<td>9.1</td>
<td>30.9</td>
<td>1.1</td>
<td>536</td>
<td>0.9</td>
<td>536</td>
<td>2.6</td>
</tr>
<tr>
<td>Macao-China</td>
<td>538</td>
<td>10.8</td>
<td>24.3</td>
<td>1.0</td>
<td>509</td>
<td>0.8</td>
<td>521</td>
<td>1.6</td>
</tr>
<tr>
<td>Japan</td>
<td>536</td>
<td>11.1</td>
<td>23.7</td>
<td>0.4</td>
<td>538</td>
<td>1.5</td>
<td>547</td>
<td>2.6</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>535</td>
<td>14.1</td>
<td>24.8</td>
<td>0.3</td>
<td>516</td>
<td>1.3</td>
<td>525</td>
<td>0.4</td>
</tr>
<tr>
<td>Switzerland</td>
<td>531</td>
<td>12.4</td>
<td>21.4</td>
<td>0.6</td>
<td>509</td>
<td>1.0</td>
<td>515</td>
<td>0.6</td>
</tr>
<tr>
<td>Netherlands</td>
<td>523</td>
<td>14.8</td>
<td>19.3</td>
<td>-1.6</td>
<td>511</td>
<td>-0.1</td>
<td>522</td>
<td>-0.5</td>
</tr>
<tr>
<td>Estonia</td>
<td>521</td>
<td>10.5</td>
<td>14.6</td>
<td>0.9</td>
<td>516</td>
<td>2.4</td>
<td>541</td>
<td>1.5</td>
</tr>
<tr>
<td>Finland</td>
<td>519</td>
<td>12.3</td>
<td>15.3</td>
<td>-2.8</td>
<td>524</td>
<td>-1.7</td>
<td>545</td>
<td>-3.0</td>
</tr>
<tr>
<td>Canada</td>
<td>518</td>
<td>13.8</td>
<td>16.4</td>
<td>-1.4</td>
<td>523</td>
<td>-0.9</td>
<td>525</td>
<td>-1.5</td>
</tr>
<tr>
<td>Poland</td>
<td>518</td>
<td>14.4</td>
<td>16.7</td>
<td>2.6</td>
<td>518</td>
<td>2.8</td>
<td>526</td>
<td>4.6</td>
</tr>
<tr>
<td>Belgium</td>
<td>515</td>
<td>18.9</td>
<td>19.4</td>
<td>-1.6</td>
<td>509</td>
<td>0.1</td>
<td>505</td>
<td>-0.8</td>
</tr>
<tr>
<td>Germany</td>
<td>514</td>
<td>17.7</td>
<td>17.5</td>
<td>1.4</td>
<td>508</td>
<td>1.8</td>
<td>524</td>
<td>1.4</td>
</tr>
<tr>
<td>Viet Nam</td>
<td>511</td>
<td>14.2</td>
<td>13.3</td>
<td>m</td>
<td>508</td>
<td>m</td>
<td>528</td>
<td>m</td>
</tr>
<tr>
<td>Austria</td>
<td>506</td>
<td>18.7</td>
<td>14.3</td>
<td>0.0</td>
<td>490</td>
<td>-0.2</td>
<td>506</td>
<td>-0.8</td>
</tr>
<tr>
<td>Australia</td>
<td>504</td>
<td>19.7</td>
<td>14.8</td>
<td>-2.2</td>
<td>512</td>
<td>-1.4</td>
<td>521</td>
<td>-0.9</td>
</tr>
<tr>
<td>Ireland</td>
<td>501</td>
<td>16.9</td>
<td>10.7</td>
<td>-0.6</td>
<td>523</td>
<td>-0.9</td>
<td>522</td>
<td>2.3</td>
</tr>
<tr>
<td>Slovenia</td>
<td>501</td>
<td>20.1</td>
<td>13.7</td>
<td>-0.6</td>
<td>481</td>
<td>-2.2</td>
<td>514</td>
<td>-0.8</td>
</tr>
<tr>
<td>Denmark</td>
<td>500</td>
<td>16.8</td>
<td>10.0</td>
<td>-1.8</td>
<td>496</td>
<td>0.1</td>
<td>498</td>
<td>0.4</td>
</tr>
<tr>
<td>New Zealand</td>
<td>500</td>
<td>22.6</td>
<td>15.0</td>
<td>-2.5</td>
<td>512</td>
<td>-1.1</td>
<td>516</td>
<td>-2.5</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>499</td>
<td>21.0</td>
<td>12.9</td>
<td>-2.5</td>
<td>493</td>
<td>-0.5</td>
<td>508</td>
<td>-1.0</td>
</tr>
<tr>
<td>France</td>
<td>495</td>
<td>22.4</td>
<td>12.9</td>
<td>-1.5</td>
<td>505</td>
<td>0.0</td>
<td>499</td>
<td>0.6</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>494</td>
<td>21.8</td>
<td>11.8</td>
<td>-0.3</td>
<td>499</td>
<td>0.7</td>
<td>514</td>
<td>-0.1</td>
</tr>
<tr>
<td>Iceland</td>
<td>493</td>
<td>21.5</td>
<td>11.2</td>
<td>-2.2</td>
<td>483</td>
<td>-1.3</td>
<td>478</td>
<td>-2.0</td>
</tr>
</tbody>
</table>
Figure 1 – Overview of factors and processes for Collaborative Problem Solving in PISA 2015

...make sure you prepare your students for that ok?!
Assessing collaboration....
International Links Project – What?

- Frankston High School and King Edward the Seventh School (Melton-Mowbray – England)

- Cross curricula / Year 7 students in English and Geography

- Students are paired up with ‘Buddies’ from the other school

- Email / Video conferencing / Online curriculum / Discussion board (?)
• Technology use / skills across learning areas

• Connectedness – between home and school and also between subject areas.

• Global perspective

• Learn through relevant activities

• Increase the interest of students
Global collaboration through holistic transformation
- Time series

- Change detection

2011-01-13
2011-01-19
2011-01-28
2011-02-03

Output to Data Center

Net loss: 1.3 Soccer fields!
Data Center Cumulative Mapping

Change:
2011-01-13 - 2011-02-03
A flight plan is made to aerially check the data.
People tell us that the owner is named Gunawan.
When we catch the criminals this fast illegal logging can be ended within one year!

One week from your computer to the forest to jail
MISS OUR OCTOBER WEBINAR SERIES?

This past October DeforestACTION held a 3-part webinar series showcasing student initiatives. If you missed any of the webinars.

LATEST NEWS

Help stop deforestation by purchasing wonderful DeforestACTION products designed by students at Dallas Brooks Community Primary School.

www.deforestaction.org
What if we brought together school leaders from more than 70 different countries to share and grow their collective knowledge?
and....

What if we ‘mined’ the gems of innovation that had helped to transform their schools?
and....

**What if** we found a way to **collect and publish** their words of **wisdom**?

...so we did
the result?

“Collective Wisdom from Innovative Schools”
Edited by Sean Tierney

...and....it made the Top 20 Must Read Books for US Educators, 2012...and has sold out on Amazon 4 times over!
As we speak proudly and in clichés of 21st century skills, we are failing to leverage even the simplest of 21st Century technologies: and yet intuitively we seem to know they suggest enormous possibilities.
Curriculum

We aim to instil in each student a passion for life, a love of learning and the courage and the confidence to serve others. We do this through a comprehensive and structured academic and vocational learning program, quality religious education, an intensive and diverse co-curricular program and active involvement in issues of social justice. Opportunities for the development of leadership skills are considered essential to these aims.

Our students are encouraged to strive to meet the challenges of the new millennium. We therefore aim to develop effective communicators who are able to engage in high level critical thinking, creativity, problem solving and teamwork. Students are encouraged to be self-directed, ethical and responsible. Individual talent and interests are fostered through our extensive range of extra-curricular activities.

Our outstanding facilities, innovative teaching practices and use of 21st Century technologies ensure that students have access to first class learning opportunities.
SKILLS FOR LIFE AND WORK TODAY

- Knowledge building
- Self-regulation & assessment
- Problem solving & innovation
- Collaboration
- Global awareness
- Skilled communication
- ICT use
7 COUNTRIES PARTICIPATING IN ITL

- National Board of Education, Finland
- Russian Academy of Education & The Academy for Teachers Training, Russia
- New South Wales Department of Education & Training, Australia
- Ministry of National Education, Indonesia
- The Schools Network, England
- National Ministry of Education, Senegal
- National Ministry of Education, MEXICO

45+ COUNTRIES USING METHODS

- National Board of Education, Finland
- Russian Academy of Education & The Academy for Teachers Training, Russia
- New South Wales Department of Education & Training, Australia
- Ministry of National Education, Indonesia
- The Schools Network, England
- National Ministry of Education, Senegal
- National Ministry of Education, MEXICO
<table>
<thead>
<tr>
<th>Methods Published at: <a href="http://www.itlresearch.com">www.itlresearch.com</a></th>
<th>Education System Change</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Across</strong></td>
<td><strong>School Leadership and Culture</strong></td>
</tr>
<tr>
<td>159 survey schools</td>
<td>Innovative Teaching Practices</td>
</tr>
<tr>
<td>24 site visit schools</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher &amp; School Leader Interviews</strong></td>
<td></td>
</tr>
<tr>
<td>86 teachers</td>
<td></td>
</tr>
<tr>
<td>18 school leaders</td>
<td></td>
</tr>
<tr>
<td><strong>Teacher &amp; School Leader Surveys</strong></td>
<td></td>
</tr>
<tr>
<td>4,038 teachers</td>
<td></td>
</tr>
<tr>
<td>159 school leaders</td>
<td></td>
</tr>
<tr>
<td><strong>Classroom Observations</strong></td>
<td></td>
</tr>
<tr>
<td>81 classrooms</td>
<td></td>
</tr>
<tr>
<td><strong>Learning Activity Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>967 learning activities</td>
<td></td>
</tr>
<tr>
<td><strong>Student Work Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>3,367 student work</td>
<td></td>
</tr>
<tr>
<td><strong>Student Focus Groups</strong></td>
<td></td>
</tr>
<tr>
<td>33 focus groups</td>
<td></td>
</tr>
</tbody>
</table>
Innovative Teaching and Learning Research (ITL)

Pilot Year

Consistency of findings across different countries

Students learn future skills when educators structure learning activities that require them

21st century skills are not clearly defined, and there is no clear idea how to design associated learning activities
Key Findings from ITL Research in 2011

- Innovative teaching supports students’ development of the skills that will help them thrive in future life and work.

- However, students’ opportunities to develop these skills are typically scarce and uneven, both within and across the sample of schools in the study (across all countries).

- While ICT use in teaching is becoming more common, ICT use by students in their learning is still an exception in many of these schools.
question...

If a visitor to your school walked into your average classroom this afternoon, what would they see students doing on their computer?
Find information on the Internet 36%
Practice routine skills and procedures 26%
Take tests or turn in homework 17%
Write or edit stories, reports, or... 15%
Analyze data or information 15%
Access class resources or online... 12%
Collaborate with peers on learning... 9%
Create multimedia presentations 6%
Use simulations or animations 5%
Work with others from outside class 5%
Develop simulations or animations 3%

Based on Analysis by SRI International

Figure 4: Student uses of ICT
What we want students to do...

Bloom's Digital Taxonomy

Key Terms

- Creating
- Evaluating
- Analysing
- Applying
- Understanding
- Remembering

Verbs:
- Designing
- Producing
- Inventing
- Devising
- Making
- Programming
- Filming
- Animating
- Blogging
- Video blogging
- Mixing
- Re-mixing
- Wiki-ing
- Publishing
- Videocasting
- Podcasting
- Directing
- Broadcasting

- Checking
- Hypothesising
- Critiquing
- Experimenting
- Judging
- Testing
- Detecting
- Monitoring
- Blog commenting
- Reviewing
- Posting
- Moderating
- Collaborating
- Networking
- Refactoring
- Testing

- Comparing
- Organising
- Deconstructing
- Attributing
- Outlining
- Finding
- Structuring
- Integrating
- Mashing
- Linking
- Validating
- Reverse engineering
- Cracking
- Media clipping

- Implementing
- Carrying out
- Using
- Executing
- Running
- Loading
- Playing
- Operating
- Hacking
- Uploading
- Sharing
- Editing

- Interpreting
- Summarising
- Inferring
- Paraphrasing
- Classifying
- Comparing
- Explaining
- Exemplifying
- Advanced searches
- Boolean searches
- Blog journaling
- Twittering
- Categorising
- Tagging
- Commenting
- Annotating
- Subscribing

- Recognising
- Listing
- Describing
- Identifying
- Retrieving
- Naming
- Locating
- Finding
- Bullet pointing
- Highlighting
- Bookmarking
- Social networking
- Social bookmarking
- Favouriting/local bookmarking
- Searching
- Googling

HOTS
Higher Order Thinking Skills

LOTS
Lower Order Thinking Skills

Communication Spectrum
- Collaborating
- Moderating
- Negotiating
- Debating
- Commenting
- Net meeting
- Skyping
- Video conferencing
- Reviewing
- Questioning
- Replying
- Posting & Blogging
- Networking
- Contributing
- Chatting
- E-mailing
- Twittering/Microblogging
- Instant messaging
- Texting
Reconsider what we do in light of research...

What students do...

- Find information on the Internet: 36%
- Practice routine skills and procedures: 26%
- Take tests or turn in homework: 17%
- Write or edit stories, reports, or...: 15%
- Analyze data or information: 15%
- Access class resources or online...: 12%
- Collaborate with peers on learning...: 9%
- Create multimedia presentations: 6%
- Use simulations or animations: 5%
- Work with others from outside class: 5%
- Develop simulations or animations: 3%

Based on Analysis by SRI International

Figure 4: Student uses of ICT

What students could do...

Bloom's Digital Taxonomy

Higher Order Thinking Skills
- Designing, constructing, planning, producing, inventing, devising, making, programming, filming, animating, blogging, video blogging, remixing, re-mixing, writing, publishing, videocasting, podcasting, directing, broadcasting
- Checking, hypothesizing, critiquing, Experimenting, judging, testing, Detecting, Monitoring, blog commenting, reviewing, posting, moderating, collaborating, networking, refactoring, testing.
- Comparing, organising, deconstructing, Attributes, outlining, finding, structuring, integrating, matching, linking, validating, reverse engineering, cracking, media clipping
- Implementing, carrying out, using, executing, running, building, playing, operating, hacking, uploading, sharing, editing
- Interpreting, Summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying, advanced searches, Boolean searches, blog journaling, twiterring, categorising, tagging, commenting, annotating, subscribing
- Recognising, listing, describing, Identifying, Retrieving, Naming, Locating, Finding, bullet pointing, highlighting, bookmarking, social networking, social bookmarking, favouritising, local bookmarking, searching, googling.

Lower Order Thinking Skills
- Communicating
  - Collaborating
  - Moderating
  - Negotiating
  - Debating
  - Commenting
  - Net meeting
  - Blogging
  - Video conferencing
  - Reviewing
  - Questioning
  - Replying
  - Posting & blogging
  - Networking
  - Contributing
  - Chatting
  - E-mailing
  - Twittering/Microblogging
  - Instant messaging
  - Texting
Implications for task design and 21st C capabilities…

Notes:
a. For a given learning activity, this chart plots the learning activity’s score (collapsed across dimensions) to the mean score for its corresponding pieces of student work. A larger bubble represents a higher concentration of data points.
b. LA and SW score points can range from 1-4.
c. Source: ITL LASW data, 2011

Figure 2: Learning Activity Scores Predict Student Work Scores
The National Curriculum provides a significant opportunity to embrace new teaching practices and capability based learning outcomes for students.....not just content.
123 pages of the best intentions...

- Literacy
- Numeracy
- ICT
- Critical and creative thinking
- Personal and social capability
- Ethical behaviour
- Intercultural understanding

These capabilities are an "entitlement" for students.
problem....

How do we know or measure if our students are actually developing the ACARA capabilities?
bridge between theory and practice of 21\textsuperscript{st} century skills

framework for teacher collaboration

examining learning activities in relation to student work
Collaboration...

“Make sure you teach your students to be good collaborators ok?!"
<table>
<thead>
<tr>
<th></th>
<th>2nd year</th>
<th>Pilot Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Regulation</td>
<td>1.4</td>
<td>3.4</td>
</tr>
<tr>
<td>Real-World Problem-Solving</td>
<td>1.6</td>
<td>2.5</td>
</tr>
<tr>
<td>Use of ICT in Learning</td>
<td>1.6</td>
<td>2.6</td>
</tr>
<tr>
<td>Knowledge Building</td>
<td>1.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Collaboration</td>
<td>1.7</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Teaching can change dramatically.
Explicit links...

There are direct alignments between ACARA capabilities and 21st Century Skills.
School Research to measure and develop 21st Century teaching and learning in your school

Start the Research at Your School Now!

What is this research?


People all over the world are talking about the need to transform education to align with the realities of life and work in the 21st Century. This is not just about the effective use of technology. It's about developing kids who are deeply

How It Works:

- The surveys are self-assessment tools for schools, measuring innovative teaching practices
- Survey responses are confidential and anonymous
- The survey tools and school reports are free
- Schools can use the surveys each year to track progress

"Measuring key pedagogical elements of 21st Century learning in school assessments is very useful."

– Bo Kristoffersson, Principal, Sweden

"Using the school research report as a tool for discussion and reflection among educators is the most important thing – that is where the real value is."

– Mark Spaniell, Principal, Australia

Partners in Learning
School Research based on
Homework has quite a low effect size on improving academic outcomes for students...certainly not as large as we would think....

Is it ‘homework’ as a concept generally, or is it impacted on by the type of homework we give?

‘Finish those questions at home’ or ‘Work on your story tonight’
Two crucial elements

- Knowing *how* to design a *curriculum* that builds *collaboration skills*
- Having the *tools* to *allow* that *curriculum* to *become a reality*
Preparation for the world of work

Greetings in Japanese

こんにちは。(Konnichiwa) = Good day
こんにちはげんきですか。Konnichiwa. Genki desu ka? = Good day. How are you?
はい げんきですHai, genki desu= I am fine
よろしくお願いします。Yoroshiku onegaishimasu.= Nice to meet you.

Using real world tools...
Required skill...

Collaborative problem-solving over distance using real world tools...
“Research has shown there is no more powerful way to communicate the idea that’s in my head into your head, than by talking and drawing a simple picture about it at exactly the same time”.

Dan Roam
• 80-90% preferred Tablet PC lectures
• 80% of students said it helped with focus
• 85% said annotations helped understanding
The nature of collaborative tasks

- Thinking is best in low fidelity (e.g., paper)
  "Back of a Napkin"

- More powerful feedback given when ↓ fidelity.

What's more
- We are collaborating more with people further away from us (country / state / office)

but
- Web-based collaboration as it stands is generally:
  - Clunky
  - Already getting beyond low fidelity
  - Lacks fluency

Then
- DANGER that the quality of outcomes/outputs of collaboration ↓

So...
- It would follow that we need ↑ fidelity (pen-based) for web-based collaboration

We have them...
Maximize my potential as a teacher to adapt for learning.
Innovative Teacher Awards 2013
Apply now and be recognized as one of Australia's most innovative educators.

Find out more

New tutorials
Critical Thinking and Managing Information

Popular discussions
2 GENERAL
Your School Your Way - Event discussion and content

Stay connected
twitter facebook

www.pil-network.com