Transforming Education

Global Trends and learnings

Brian G. Gonzalez
Director, Global Education Sector
Agenda for Today

• The Innovation Economy

• Global Education ICT Trends

• The Future of Learning... today!
Role of Educators

“Prepare students for jobs that haven’t been created... ...solve problems that may not even yet exist.”

— former U.S. Education Secretary Richard Riley

“Give students the inspiration to bring something extra to the world.”

— author Thomas L. Friedman, That Used to Be Us

Students will not just take good jobs; they need to create jobs.
The future is now...
and so is urgency for action
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and so is urgency for action
The future is now…  
and so is urgency for action

INNOVATION
KNOWLEDGE
EMPLOYABILITY

Requires:
- Global Trends and learnings
- How we Educate is Key!

CHANGING ENVIRONMENT
- Economic downturn
- Rapid political change
- Increased ICT access and use
- Greater market competitiveness

Global Trends and learnings
Skills for the Innovation Economy:

- Critical thinking
- Collaboration
- Communication
- Problem solving
- Project management
- Technology literacy

*Schools must Inspire Innovative thinking*
Typical images of Pre-school...

Love of learning is in all of us...

*Play, Passion and Purpose in Learning*
Elementary and High Schools have not evolved... they must!

1811  1979  2011

Portugal Today!

Global Trends and learnings
Our Kids @ Home
Technology can help teachers teach and children learn...

Teacher Professional Development is key

Educational Content matters

How we deploy technology for use in school & after-school makes a difference
Global View on Education  ICT Trends

1. **Anywhere & Everybody learning**
   - Mobile Learning
   - One to One computing
   - One to Many devices

2. **Dynamic content**
   - Teacher Generated Content
   - Personalized Learning
   - Educational Gaming
   - Virtual tutoring

3. **Real time calibration enabled by cloud**
   - Just in time content access
   - Real time Assessment
   - Manageability and Security
   - Education services
Pervasive Learning Space...

Student-Centered Classroom
Learning anytime, anywhere, any way

Transforming Education
Global Trends and learnings
Enabled by the Education Cloud

Pervasive and Redefined...
...One to Many
Agenda for Today

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Portugal – Future Ready!

Program Objectives

Accelerate move to information society
- 21st Century Skills – Portugal as global showcase

Develop local industry
- Build local capability – HW & SW ecosystem

Create economic impact “GDP Boost”
- Increase exports with existing trading partners

21st Century Skills + Jobs

Mas de 1.350.000 de computadoras distribuidas por estudiantes, maestros y adultos en programas de educación de adultos
## Portugal – Future Ready!

<table>
<thead>
<tr>
<th>Metrics</th>
<th>2008</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet Usage</td>
<td>38%</td>
<td>60%</td>
</tr>
<tr>
<td>BB Penetration</td>
<td>13%</td>
<td>50%</td>
</tr>
<tr>
<td>HH PC Penetration</td>
<td>43%</td>
<td>70%</td>
</tr>
<tr>
<td>Students per PC</td>
<td>9:1</td>
<td>1:1</td>
</tr>
<tr>
<td>Employees with Internet</td>
<td>25%</td>
<td>40%</td>
</tr>
<tr>
<td>Teachers ICT Certification</td>
<td>8%</td>
<td>90%</td>
</tr>
</tbody>
</table>

**21st Century Skills + Jobs**

Mas de 1.350.000 de computadoras distribuidas por estudiantes, maestros y adultos en programas de educación de adultos.
Funding Model... Public/Private Partnership

- Infrastructure investments through the auction of 3G licenses
- Partnership between government and mobile operators
- Parent Contribution 20 euros or 50 euros
Build Local Capability...

Creating the Portuguese Silicon Valley
Magellan Gives Boost to Technology Cluster and Jobs

- Cella: Design/Innovation Center, 10% increase in jobs
- JP Sá Couto: OEM/ODM, 200% increase in jobs
- Prológica: IT Integrator/Distributor, increase in jobs
- NDrive: GPS Device Manufacturer, 58 jobs
- Qimonda: Chip Manufacturer, 1,600 jobs
- INESC Porto: Research University, Quantum Chip Lab

MobiComp: Mobile Devices Software, 50 jobs

Braga
Maia
Matasinhos
Porto

Northern Portugal

Hundreds of jobs added to improve Portugal's employment rate

Entities directly benefiting from Magellan
Project Magellan

Direct and Indirect Economic Benefits

Direct Benefits
• Creation of local jobs associated with hardware and software production and support services
• Improvements in physical and Internet infrastructure
• Export increase/improvement in balance of trade

Indirect Benefits
• New production and service jobs
• Enhanced ability to attract foreign investment due to stronger workforce skills
• Build up of local IT capabilities and ecosystem

Economic Benefits
Manufacturing Expansion Leads to Spinoff Jobs and Activity

Magellan Education Project ....
2 year Economic impact

<table>
<thead>
<tr>
<th></th>
<th>Direct Impact*</th>
<th>Indirect Impact</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jobs</td>
<td>350</td>
<td>1,120</td>
<td>1,470</td>
</tr>
<tr>
<td>Economic Activity</td>
<td>€1 billion</td>
<td>€1.26 billion</td>
<td>€2.26 billion</td>
</tr>
<tr>
<td>(based on sales of 1.5 million units)</td>
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<td></td>
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</tbody>
</table>

*Result of manufacturing expansion
### Use of Program

<table>
<thead>
<tr>
<th>Activity</th>
<th>Usage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>eLearning</td>
<td>93%</td>
</tr>
<tr>
<td>Internet Access</td>
<td>79%</td>
</tr>
<tr>
<td>Search</td>
<td>78%</td>
</tr>
<tr>
<td>Reading</td>
<td>71%</td>
</tr>
<tr>
<td>Prepare lectures</td>
<td>64%</td>
</tr>
<tr>
<td>Música y videos</td>
<td>60%</td>
</tr>
<tr>
<td>Digital books</td>
<td>59%</td>
</tr>
</tbody>
</table>

92% of Teachers use Magallanes

Source: Daniel Adrião  
### Program Success?

#### Opinion of Teachers

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Promote equal opportunity</td>
<td>79%</td>
</tr>
<tr>
<td>Aid learning</td>
<td>70%</td>
</tr>
<tr>
<td>Stimulate creative spirit</td>
<td>68%</td>
</tr>
<tr>
<td>Required way to manage school load</td>
<td>62%</td>
</tr>
<tr>
<td>Social equality</td>
<td>61%</td>
</tr>
<tr>
<td>Increased learning</td>
<td>59%</td>
</tr>
<tr>
<td>Eases burden on teacher</td>
<td>53%</td>
</tr>
</tbody>
</table>

Source: Daniel Adrião  
MoE Internal Teacher Survey 2010  
http://www.e-xample.com/
Educational Impact?

The PISA (Program for International Student Assessment). Portugal was the country of the OECD that presented the best evolution.

A simple idea can change the future of a country.
Knowledge Economics...
Lessons from Portugal

Obama should look to Portugal on how to fix schools

Posted by: Don Tapscott on 24 Jun 2009

President Obama already knows that the nation’s schools are failing a large number of young Americans. One-third of all students drop out before finishing high school. It’s a terrible record, and it’s even worse in inner city public schools, where only half of blacks and Hispanics graduate from school. This is not a legacy that would make anyone proud: More young Americans on a proportionate basis drop out of school today than at any other time in our history.

This problem is undoubtedly complicated, but one of the reasons why many American youth are unmotivated and not learning well is that they’re bored in school. They’re grown up in a fast-paced, challenging digital world, with the Internet, mobile devices, video games and other gadgets. They watch less television than their parents did and TV is typically a background activity. They are a generation doesn’t like to be broadcast to and they love to interact, multi-task and collaborate. Yet, when they get into the classroom, they’re faced with stale textbooks and lectures from teachers who are still using a nineteenth century innovation, chalk and blackboard.

American classrooms need to enter the 21st century. Thousands of teachers agree. Earlier this year, several important educational groups urged the president and Congress to spend nearly $10 billion to improve technology in the classroom, and ensure teachers know how to use computers most effectively.
Knowledge Economics...
Lessons from Portugal

Next Generation of Power Users

Past: Plays & Works

Today: Learns & Collaborates

We must start the journey Now!
How do we go faster?

- Increase national competitiveness
- Prepare citizens for the 21st century
- Social impact
How do we go faster?
Let’s work together today!

Commitment
Collaboration
Community

Public /Private Partnerships

Transforming Education