The Tin Ka Ping Distinguished Lecture
Hong Kong, 28 September 2010
Shirley J Grundy
The Tin Ka Ping Distinguished Lecture
Hong Kong, 28 September 2010

Technology in Education: Much Ado about Nothing?

Sir John Daniel
Commonwealth of Learning

Text & slides at:
www.col.org/speeches
FOUR ISSUES
FOUR ISSUES

1. Can the use of ICTs in education go beyond teaching children computer literacy to improving learning generally?
FOUR ISSUES

2. Can technology-based Open Schooling give 400 million out-of-school 12 to 17 year olds access to secondary education?
FOUR ISSUES

3. Can distance learning swing the focus of teacher education from theoretical pre-service study to in-service courses that really improve teaching skills?
FOUR ISSUES

4. Are Open Educational Resources just another fad or could they revolutionize knowledge sharing globally?
The web’s new walls
How the internet’s openness is under threat

Jacob Zuma’s two bad calls
Will the Ivy League become GM?
How to conserve Africa’s animals
Can the laws of physics change?
Tony Blair’s strange memoirs
FOUR ISSUES

1. Can the use of ICTs in education go beyond teaching children computer literacy to improving learning generally?
Mega-Schools, Technology and Teachers: Achieving Education for All

by

John S. Daniel

Routledge 2010
SURVEY OF ICT AND EDUCATION IN AFRICA

A DRAFT infoDEV PUBLICATION PREPARED BY:

Glen Farrell
The Commonwealth of Learning

Shafika Isaac
Mindset Network

ICT AND EDUCATION SERIES

SERIES EDITOR:
Michael Trucano

A Summary Report
Based on 53 Country Surveys

Algeria • Angola • Benin • Botswana
Burkina Faso • Burundi • Cameroon
Cape Verde • Central African Republic • Chad
Comoros • Congo • Côte d’Ivoire • Djibouti
Democratic Republic of the Congo • Egypt
Equatorial Guinea • Eritrea • Ethiopia • Gabon
The Gambia • Ghana • Guinea • Guinea-Bissau
Kenya • Lesotho • Liberia • Libya • Madagascar
Malawi • Mali • Mauritania • Mauritius • Morocco
Mozambique • Namibia • Niger • Nigeria
Rwanda • Sao Tome and Principe • Senegal
Seychelles • Sierra Leone • Somalia
South Africa • Sudan • Swaziland • Tanzania
Togo • Tunisia • Uganda • Zambia • Zimbabwe
ICTs in Africa

- Experimentation to Integration
- ICTs in Education – great progress
- Emphasis on secondary school access
- Not just a subject to be taught
Demonstration: 6 diverse schools in 16 countries...

Aim: 550,000 African schools on Internet by 2020
Lessons Learned

• Little use for pedagogy but IT skills improved
• Big impact on governments and local communities
• No cost-benefit analysis

BUT

No roll-out of wider project so far!!
“To ‘learn learning’ through a methodology called “constructivism” in which the learners construct new knowledge from their experiences”

Nicholas Negroponte
The OLPC XO-1 laptop
Failure to achieve potential:

   Reality: ~ 1 million distributed
Failure to achieve potential:

   Reality: ~ 1 million distributed

2. Change of discourse:
   from learning to selling
Failure to achieve potential:

   Reality: ~ 1 million distributed

2. Change of discourse:
   from learning to selling

3. Little monitoring and evaluation
FOUR ISSUES

1. Can the use of ICTs in education go beyond teaching children computer literacy to improving learning generally?
‘A disconnection is apparent between the rationales most often presented to advance the use of ICT in education (to introduce new teaching and learning practices and to foster “21st century thinking and learning skills”), and their actual implementation (predominantly for use in computer literacy and dissemination of learning materials)’.

*Mike Trucano, World Bank*
The Central Challenge

• ACCESS (wider)

• QUALITY (higher)

• COST (lower)
The Iron Triangle

ACCESS

QUALITY

COST
The **Iron** Triangle

- **Access**
- **Quality**
- **Cost**
The Iron Triangle

ACCESS

QUALITY

COST
The **Iron Triangle**
“an insidious link between quality and exclusivity”
ACCESS QUALITY COST
The Technology Revolution

- ACCESS (wider)
- QUALITY (higher)
- COST (lower)

ALL AT THE SAME TIME!
Principles of Technology

• Division of labour
• Specialisation
• Economies of scale
• Machines and ICTs

Adam Smith
1723-1790
FOUR ISSUES

2. Can technology-based Open Schooling give 400 million out-of-school 12 to 17 year olds access to secondary education?
The Secondary Surge

400 million 12-17 year olds NOT in school
Open Schooling:

Aim:
To expand secondary schooling because 400 million children between 12 and 17 are not in school

Frances Ferreira (Namibia)
If the unit cost of SECONDARY is more than double PRIMARY, a country will NEVER achieve UNIVERSAL SECONDARY EDUCATION.
The education of girls may also be the most powerful tool against climate change.
National Institute for Open Schooling – India

400,000 new pupils annually
FOUR ISSUES

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3. Can distance learning swing the focus of teacher education from theoretical pre-service study to in-service courses that really improve teaching skills?
EXPANDING TEACHER EDUCATION

“...recruiting and educating large numbers of teachers is a necessity for rich and poor countries alike...”

(30,000 untrained teachers in California)
EXPANDING TEACHER EDUCATION

Causes of the teacher shortage:

- Complete Universal Primary
- Expand Secondary
- Wave of retirements
- Deaths from AIDS
EXPANDING TEACHER EDUCATION

• 10 million additional teachers required by 2015 (UNESCO)

• Current global teaching force = 75 million
TEACHER EDUCATION

Two issues:

• How to expand supply?

• What kind of training?
TEACHER RECRUITMENT

A three-way correlation:

• Status of profession
• Ease of recruitment
• Pupil performance
Top average scores for mathematics

<table>
<thead>
<tr>
<th>Country</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chinese Taipei</td>
<td>549</td>
</tr>
<tr>
<td>Finland</td>
<td>548</td>
</tr>
<tr>
<td>Hong Kong China</td>
<td>547</td>
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<td>Korea</td>
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<td>Alberta</td>
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<td>Canada (overall)</td>
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<tr>
<td>Ontario</td>
<td>526</td>
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<tr>
<td>Macau China</td>
<td>525</td>
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<tr>
<td>British Columbia</td>
<td>523</td>
</tr>
<tr>
<td>Japan</td>
<td>523</td>
</tr>
<tr>
<td>New Zealand</td>
<td>523</td>
</tr>
</tbody>
</table>
TEACHER RECRUITMENT

Status of profession

Shared blame:

• Teachers: absenteeism, etc.

• Governments: conditions (poor salaries, corruption)
“Those who can do; those who can’t teach”

George Bernard Shaw
The UK’s Secret Intelligence Service, MI5, advertised for teachers last year, seeking their ‘relationship-building skills’
The combination of the low status of the profession and the attractiveness of teachers’ skills in the wider labour market no doubt explains why 50% of teachers in the US leave the profession within five years of completing their training.
“sending people into the classroom with minimal initial training can be a good strategy for our times if they are then provided with appropriate on-the-job training”
Teaching:
“tough and demanding”

Postgraduate Course:
“too slow”
“too theoretical”
“too boring”
Teacher education needs radical revision!

although

“more policy attention was given to teacher education in the 1990s than in all the hundreds of years of history that preceded it. And most of the activity has focused around quality”

Moon, 2008
1990s policy irrelevant because:

- it focused on long programmes of pre-service training

  whereas

  teachers need continuous professional learning
1990s policy irrelevant because:

• upgrading of teachers without reference to school needs

so

it encourages teachers to move jobs instead of becoming more effective
1990s policy irrelevant because:

- teacher education ignored the development of distance learning enhanced by ICTs and Open Educational Resources

although
distance learning is the only way to conduct classroom-focused continuous professional development
“The locus of continuous professional learning must be the school and its focus must be the classroom. This has always been the strength of distance learning systems for teacher education”
Profiles of Eight Distance Learning Teacher Education programmes

PERMAMA – Canada/Quebec 1970s
Top average scores for mathematics

Chinese Taipei 549
Finland 548
Hong Kong China 547
Korea 547
Quebec 540
Netherlands 531
Alberta 530
Canada (overall) 527
Ontario 526
Macau China 525
British Columbia 523
Japan 523
New Zealand 523
CalStateTEACH is a non-traditional program that offers both a student teaching and an intern program for qualified candidates interested in earning their credential without attending traditional college classes. Instead, the curriculum is delivered online.
Contributions of ICTs

• Creation of communities of practice through computer conferencing:

novices can gain experience through contact with veteran practitioners.
Contributions of ICTs

- Open Educational Resources

an Internet powered worldwide community effort to create an education commons.
Profiles of Eight Distance Learning Teacher Education programmes
a consortium of 13 African universities, the UK Open University and five international organisations. It works across nine African countries – with more participating informally – by creating teacher education materials in Arabic, English, French and Kiswahili.
In 2009 nearly half a million African teachers worked with materials and resources produced through the TESSA community. Since these are classroom-based in-service materials they have a direct impact on millions of children through their use in the classroom.
OERs can be adapted to local needs:

University of Fort Hare
CONCLUSION

The locus of continuous professional learning must be the school and its focus must be the classroom.
Teacher education institutions will have to give themselves the capability to offer distance learning programmes in order to reach teachers in their schools.

Today information and communications technology can make distance learning a richer experience than learning in a university classroom.
FOUR ISSUES

4. Are Open Educational Resources just another fad or could they revolutionize knowledge sharing globally?
Open Educational Resources

ARE:
Consistent with our best academic traditions

ARE NOT:
A fancy form of plagiarism
Open Educational Resources

CONTRAST HOW ACADEMICS:

• Conduct research
• Prepare for teaching
Open Educational Resources

CONTRAST HOW ACADEMICS:

• Conduct research = PUBLIC
• Prepare for teaching = PRIVATE
Scholarship Reconsidered

“Teaching is the highest form of understanding”

Aristotle

“Knowing and learning are communal acts”
Scholarship Reconsidered

Scholarship of:

• Discovery (research)

• Integration (bridges between disciplines)

• Application (solve real problems)

• Teaching (transform & extend knowledge)
Scholarship Reconsidered

“Teaching is the highest form of understanding”

Aristotle

“Knowing and learning are communal acts”
The “Lone-Ranger” approach to eLearning

(Professor Tony Bates)
Teachers working as a community

OpenLearn
Making educational resources freely available

The Virtual University for Small States of the Commonwealth
Obstacles to sharing:

- Not invented here or by me!
- Adaptation tiresome
- Intellectual property
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- Not invented here or by me!
- Adaptation tiresome
- Intellectual property
Open Educational Resources

Do they encourage neo-colonialism?
• 13 African universities developing OERs for teacher education

• Used by 500,000 teachers in 2009

• Available in Arabic, English, French and Kiswahili
FOUR ISSUES

4. Are Open Educational Resources just another fad or could they revolutionize knowledge sharing globally?
Taking OERS beyond the OER Community: Capacity Building for Developing Countries

Open Educational Resources can:

• Widen access
• Improve quality
• Lower costs
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Principles of Technology

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