Open access for excellence and equity
Laura Czerniewicz
Berlin 9 Conference
November 2011
http://www.slideshare.net/laura_Cz/open-access-for-excellence-and-equity-10103490
University of Cape Town

• Oldest South African university
• Top ranked African university
  – QS World University Rankings
  – The Times Higher Education World University Rankings
  – Academic Ranking of World Universities
• Medium sized – 25 000 students
• Changed demographics since apartheid ended in 1994
Prestigious research

- Africa Earth Observatory Network [(AEON)] [http://www.aeon.uct.ac.za], an Earth Science initiative to promote Earth Stewardship through science, partners in Germany & France.
- The Department of Mathematics and Applied Mathematics is an international centre for research in the fields of cosmology and topology.
- The Department of Physics is home to the UCT-CERN research centre, which is partially responsible for the software design of the High Level Trigger component of the ALICE experiment at the Large Hadron Collider, as well as other activities related to ALICE.
- The Department of Electrical Engineering is involved in the development of technology for the Karoo Array Telescope (KAT). KAT is a precursor to the Square Kilometer Array, a proposed International project to build the world's largest radio telescope by 2020. Research groups in RF design and digital design contribute to the RF front-end and digital back-end of the KAT project.
- The Institute of Infectious Disease and Molecular Medicine [(IIDMM)] [http://www.uct.ac.za/depts/iidmm] is engaged in research on candidate tuberculosis vaccines, and is developing candidate HIV vaccines matched to the South African epidemic.
- The MRC/UCT Medical Imaging Research Unit [(MIRU)] [http://www.miru.uct.ac.za], inspired by the work of alumnus Allan McLeod Cormack who won a Nobel Prize for the CAT-scanner, studies brain and cardiac function and develops diagnostic imaging tools, one of which has led to the spinout of CapeRay.
South Africa

- South Africa is the 7th most unequal country in the world (as determined by Gini co-efficient)
  - SA is at 145 out of 151 countries - Gini index 57.8%
  - The USA is 86 with an index of 40.8%
- 65% of SA population live on less than $3000 a year
- The poorest 20% of the population account for 2% of consumption: the richest 20% of the population account for 66.5% of total consumption (Achar 2005).
- 14.1 mill social grant recipients in 2010 (50 million)
Need for graduates

• “Firstly, skills deficits and bottlenecks, especially priority and scarce skills, contribute to structural constraints on our growth and developmental path. Secondly, a skilled and capable workforce is critical for decent work, an inclusive economy, labour absorption, rural development, the reduction of inequalities and the need for a more diversified and knowledge intensive economy,”

Minister for Higher Education and Training, Dr. Blade Nzimande

3 May 2011 Pretoria
Schooling system taking strain

• Serious disparity of learning achievement by socioeconomic status & geography
  – eg 10% of Gr 6 students from poorest quartile reading at Gr 5 level
  – yet 70% from wealthiest quartile were

• SA rated 138th out of 142 countries in maths and science education (Global Competitiveness Report 2011/12)
Higher education
Inequity of participation

Higher Education Gross Enrolment Rate of the relevant age group

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>10%</td>
</tr>
<tr>
<td>South Africa</td>
<td>15%</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>60%</td>
</tr>
<tr>
<td>Australia</td>
<td>72%</td>
</tr>
<tr>
<td>United States</td>
<td>83%</td>
</tr>
<tr>
<td>South Korea</td>
<td>91%</td>
</tr>
</tbody>
</table>

GRE = total enrolment - of any age - in a grade or phase is pressed as a percentage

UNESCO figures in Scott 2009
HE Gross Enrolment by race

<table>
<thead>
<tr>
<th>Race</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>60%</td>
</tr>
<tr>
<td>Indian</td>
<td>51%</td>
</tr>
<tr>
<td>Coloured</td>
<td>12%</td>
</tr>
<tr>
<td>Black/African</td>
<td>12%</td>
</tr>
</tbody>
</table>

Source: Scott, Yeld and Hendry 2007
Inequity of outcomes

• 30% of students graduate within five years
• It is estimated that under 45% of the intake will ever graduate.
• Even in the the ‘contact’ universities (excluding distance education), only 50% of the intake graduate within five years.
• Drop-out in vocational diplomas is much higher, around 60%.
• In most contact university programmes, black graduation rates are under half of those for whites, and (despite the enrolment and population demographics – under 10% of the population is white) there are fewer black than white graduates.
• The net effect is that under 5% of the 20-24 year-old black age-group are succeeding in any form of higher education.
Response

• Multipronged response including curriculum support, extended programmes etc

• Need for adequate, available, appropriate resources critical
  – Scholars
  – Students
  – Community

• The quadruple helix (university, government, industry, civil society organisations)(Cooper 2011)
Scholarship – Boyer (1990)

Scholarship of teaching

Scholarship of engagement

Translation
Engagement

Conceptualisation

Data Collection
Data Analysis

Findings

Scholarship of discovery
Teaching and learning resources
Teaching and learning resources

• Most university textbooks imported
• Numbers beyond 1st year too small for local publishers to publish for
• Cost of textbooks, high
  – SA study - the cost of a year’s learning materials up to one third of the cost of tuition. (Achar 2005)
• Content often unsuitable, lack of local case studies, lack of local issues
Relative affordability

• 0.2% of GDP/capita – US
• 6.5% of GDP/capita – SA

• Prepared to pay $316?

Achar 2005
• Availability
  – Book sellers under-order
  – Imported text often can’t be replenished on time

• Photocopying
  – Students
  – Desperate lecturers

• Textbooks torrents
OERs critical
Increasing access to quality higher education and training through innovative use of information communication technologies
• Launched January 2011
• 219 open educational modules in three languages
• Developed collaboratively by clusters in 10 African countries
• Downloaded by 142 countries
  – significant numbers from Brazil and the United States
OER Africa provides you access to all the information you will need to learn about and benefit from Open Educational Resources (OER). If you are just discovering OER, we provide an excellent starting point for finding OER, learning about the benefits of sharing. We currently focuses on the supporting and developing OER in these thematic areas: Agriculture OER, Health OER, Foundation OER and Teacher Education OER. To find out more about each thematic area, how to participate and view/download resources click on links below.
The UCT OpenContent directory is the web portal for accessing open teaching and learning content from the University of Cape Town. Read More
OpenContent Directory

• Development funded by Shuttleworth
• Located in CET, Teaching & Learning Resources
• Launched February 2010
• To date 800 downloadable items
• Different granularity
• 63,835 site visits from 179 countries
It has made the university more visible because our OER are out there...Lately KNUST is priding itself on being the best university in Ghana and this is partially based on the Webometrics ranking of the university’s visibility. And OER have contributed, I think, in a small way, towards making the university more visible.

Peter Donkor 2011
Provost College of Health Science, Kwame Nkrumah University of Science and Technology
Open access offers students more
Closed inefficient provision of learning resources for students as present
Open Scholarship
new possibilities for students
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Research-teaching continuum
Changing post-graduate space

- Internationalisation
- Life long learning
- Professionalisation

Modes of engagement:
- Classroom, group
- Individual, supervision

Resources:
- Pedagogised (UG)
- Not pedagogised (PG)

Concept - Lucia Thesen 2011
Scholarship of engagement
Welcome

The Southern Africa Labour and Development Research Unit (SALDRU) carries out research in applied empirical microeconomics with an emphasis on labour markets, human capital, poverty, inequality and social policy. We strive for academic excellence and policy relevance. SALDRU has implemented a range of innovative surveys in South Africa since it was founded in 1975, and is based in the School of Economics in the University of Cape Town. We have three permanent research staff, and twenty two Research Associates who share common research interests, and are drawn from the UCT School of Economics, as well as other South African and international universities.

Latest Publications

**Ethnic Solidarity and the Individual Determinants of Ethnic Identification** by Thomas Bossuroy - Working Paper 69


**Individual notions of distributive justice and relative economic status** by Abigail Barr, Justine Burns, Luis Miller, and Ingrid Shaw - Working Paper 66

OA supports *all* core business

Research
Teaching
Engagement
Strategic goals

• Internationalising UCT via an Afropolitan Niche
• Transformation of UCT Towards Non-Racialism - Redress, Diversity, Inclusiveness and the Recognition of African Voices
• A Vision for the Development of Research at UCT: Greater Impact, Greater Engagement
• Enhancing the Quality and Profile of UCT's Graduates
• Expanding and Enhancing UCT's Contribution to South Africa's Development Challenges
How will it be possible?

The technology
Mobiles broadly

• “always-connected” devices, ie sim enabled devices
  – Non-WAP enabled cell phones
  – WAP phones
  – Smartphones
  – Tablets
  – Ereaders
There are 200 million more mobile phones in Africa than in the USA.

The number of mobile phone subscribers in Africa has doubled since 2008 and multiplied tenfold since 2002. This means that...

At this rate, every single person will own a mobile by the year 2020.

In addition, it is important to note that right now there are even more mobile phone users than owners, as in the villages it is common for a whole family to share one mobile phone, or to pay for the use of community phones offered by local micro-entrepreneurs.

The number of SMS sent every day exceeds the population of the planet.

Trillion SMS sent in 2010:
200,000
every second.
The stats

• 500 million+ mobile phone subscribers in Africa today, more than half of the continent’s population.

• Of the 110 million Africans who do use the internet, more than half do so via their mobile phone

• Mobile cell coverage is at nearly 90% of the population
Mobile

Fixed broadband subscriptions
200-2010

Mobile cell subscriptions
2000-2010

Source: ITU World Telecommunication/ICT Indicators database.
Mobile web dominance

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage mobile-only</th>
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<th>Percentage mobile-only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>70%</td>
<td>Indonesia</td>
<td>44%</td>
</tr>
<tr>
<td>India</td>
<td>59%</td>
<td>Thailand</td>
<td>32%</td>
</tr>
<tr>
<td>South Africa</td>
<td>57%</td>
<td>China</td>
<td>30%</td>
</tr>
<tr>
<td>Ghana</td>
<td>55%</td>
<td>US</td>
<td>25%</td>
</tr>
<tr>
<td>Kenya</td>
<td>54%</td>
<td>UK</td>
<td>22%</td>
</tr>
<tr>
<td>Nigeria</td>
<td>50%</td>
<td>Russia</td>
<td>19%</td>
</tr>
</tbody>
</table>

Source: On Device Research (December 2010)  
Survey group: 15,204 via: mobiThinking
The rise of smartphones

• Estimate for SA 8 million
• Estimate for SA students 70%
and
• Emergence of cheap tablets

"A kid in Africa with a smartphone has more information today than the President of the United States did 15 years ago."
Ray Kurzweil

Tarrant, September 2011, memeburn; Student Village 2011
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