Deep Impact: an investigation of the use of ICT for teacher education in the global south

Study Authors: by Jenny Leach with Atef Ahmed, Shumi Makalima and Tom Power

Presented by: Rashmi Melgiri
Problem: More and more African children in need of education from fewer and fewer qualified teachers.

The children
- Over 40M children of primary school age have not yet attended
- Of those who do attend, a small fraction achieve basic skill
- Exploding population growth in this age group

The teachers
- Thousands are under qualified to teach
- Spread of HIV/AIDS taken toll on population of teachers
Curiosity: Can ICT help?

• Rapidly growing mobile penetration (2.8% of African population, but growth rate of 65%)
• Drops in cost of equipment
• Decreasing cost of access

“... it now seems urgent to develop a well-founded experience of the way in which teacher education can benefit from these completely new forms of communication.”
Research Aim: 3 questions

1. What is the impact of ICT use on the pedagogic **knowledge and practice of teachers** and the communities in which they live and work?

2. What is the impact of ICT-enhanced teaching on **student achievement and motivation**?

3. How can **teacher education** and training be developed to ensure teacher capacity to exploit the potential for ICT?
The approach: case studies

• When: March 2001-May 2003
• Where: 2 cities
  – Cario, Egypt
  – East Cape Province, South Africa
• Who: teachers led by research staff
  – 48 primary school teachers (working in pairs) across 24 schools (12/location)
  – DEEP partner organizations leading a development program for the teachers
Methodology: teacher and school selection criteria

- Radio announcement publicized upcoming study and requested expressions of interest
- 91 schools applied
- Final selection heterogeneous wrt ICT adoption
  - 33% without electricity
  - 50% of schools without telephony
  - 75% without any form of ICT
- Teachers interested and committed to developing their skills
Forms of ICT employed

• Laptops
• Desktops
• Hand-helds
• LCD panel
• Data projector
• Digital cameras and video recorders
• Printer-scanner-copiers
• Mobile phones
Program: 3 terms, teacher + student

• Term 1: Introducing DEEP, the project and ICT
• Term 2: In-school planning and practice
  – Research skills via internet and CD rom
  – Personal communication via email
  – Strengthen numeracy with real data
• Term 3: Organizing learning and Review
  – Drafting and redrafting via word
  – Planning the writing process
  – Reflection on achievement
Key Findings: Qualitative and unqualified

1. **Teacher Confidence**: Teachers quickly developed basic computer and software skills

2. **Extending Teacher Subject Knowledge**: Teachers began to use ICT to learn more about their subject areas

3. **Enhanced planning and preparation**: Teachers using ICT to plan lessons

4. **Building Teacher Networks**: Communication applications led to teachers connecting and collaborating

Little/No discussion of financial sustainability
Stepping back: Prioritization of funds

Excerpt describing one of the sample schools:
The village is reached by an hour's difficult drive from the main N2 via an unmade road, offering remarkable views ... virtually inaccessible in the rainy season. Few adults between the age of 20 and 50 reside there: many have died from AIDS, and surviving able-bodied adults live in towns or cities most of the year round in order to make a living. On average students live within a 2-mile radius of the school, mostly with grandparents or other relatives. Fees are between R10 and R30 (£1–3) per annum, depending on the level of study; 90% of students are unable to make this payment. Classrooms are mostly bare, concrete-floored constructions with dilapidated wooden desks; the youngest learners are taught in dark, crowded, thatched rondeavals.