

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

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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
 - Cairo, 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 rondeavaals.

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