

Early Lessons from Going Abroad: India and Uganda

5th Annual Berkeley in
Silicon Valley Symposium
Plenary Session
May 7, 2005



**Matthew Kam, Ph.D. student
EECS and Berkeley Institute of Design
mattkam@cs.berkeley.edu**

Educational Computing in India



States & Capitals INDIA



Dr. Urvashi Sahni

Lack of Electricity, etc.



Lack of Electricity, etc.



Lack of Electricity, etc.



Pilot Since June 2000



- Solar-powered computer
- Custom Hindi courseware for science education



Small-Group Learning



- Interactive quizzes and peer coaching
- Fill in gaps in teachers' knowledge
- Senior-junior coaching
- Parental support

Student Authoring



- Motivation to create multimedia stories that impress peers
- Authoring process fosters active learning
- But current tools (Flash, Premiere, PowerPoint, etc.) too complicated for kids

Usability Isn't Everything



Scaling up Microfinance in Uganda



Third-Party Evaluation



- Remote Transaction System
- HP consortium



Interoperability Obstacles



- Integration of RTS with existing financial systems and accounting practices
- Crash course in financial accounting

How to Prepare Tomorrow's Technologists for Global Networks of Innovation

University curricula must prepare them to be able to recognize and embrace technologies, components, markets, and customers wherever in the world they happen to be.

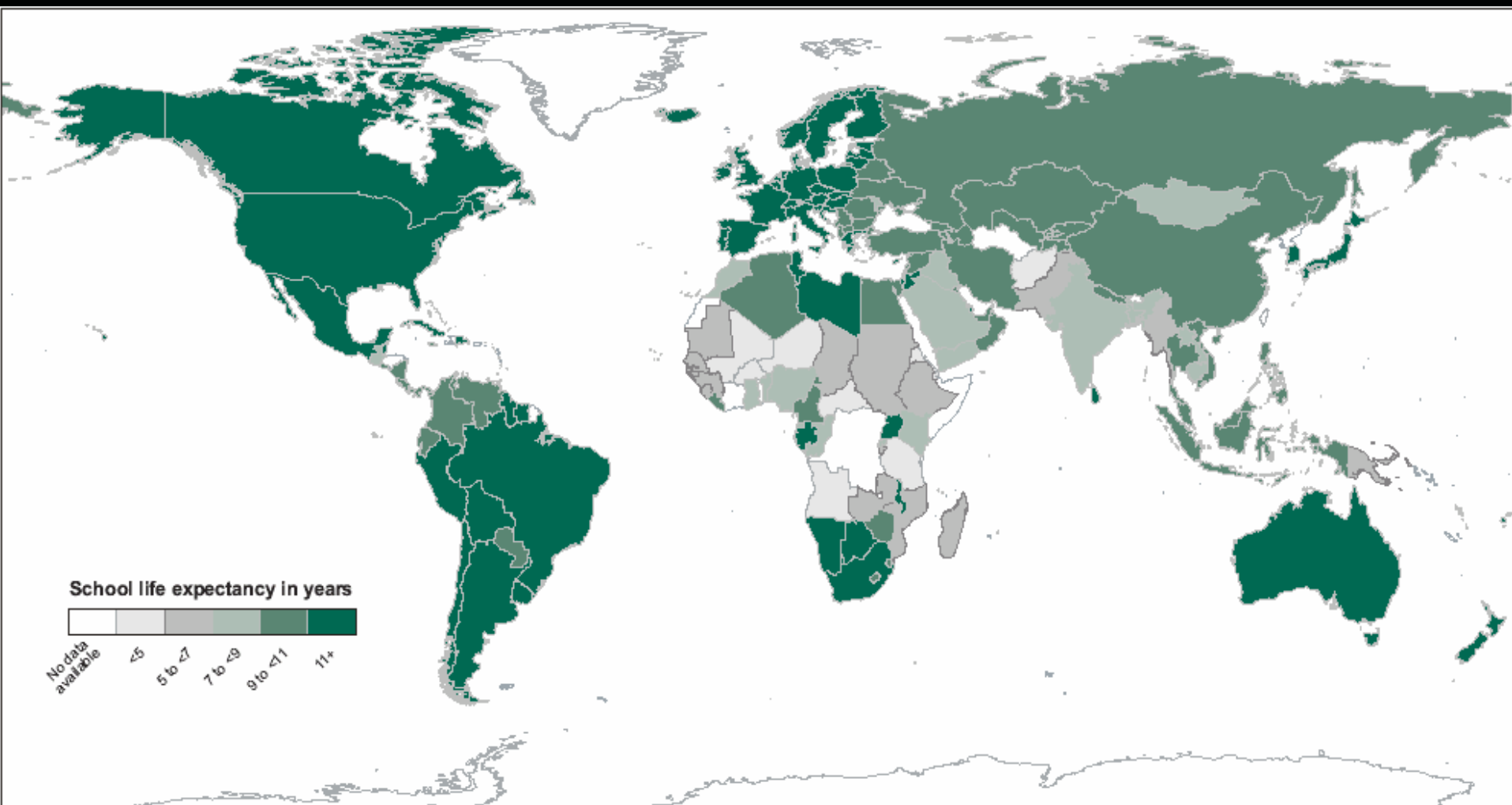


Two of the most important changes the global innovation engine has undergone in the last decade are the emergence of global networks of innovation and the increasing distance between technology innovators and their customers and markets. They represent a critical challenge for future technologists and imply a looming crisis in engineering and technology education worldwide. How effective are today's curricula in preparing them? If you con-

neers and technologists capable of adapting to and thriving in tomorrow's global environment.

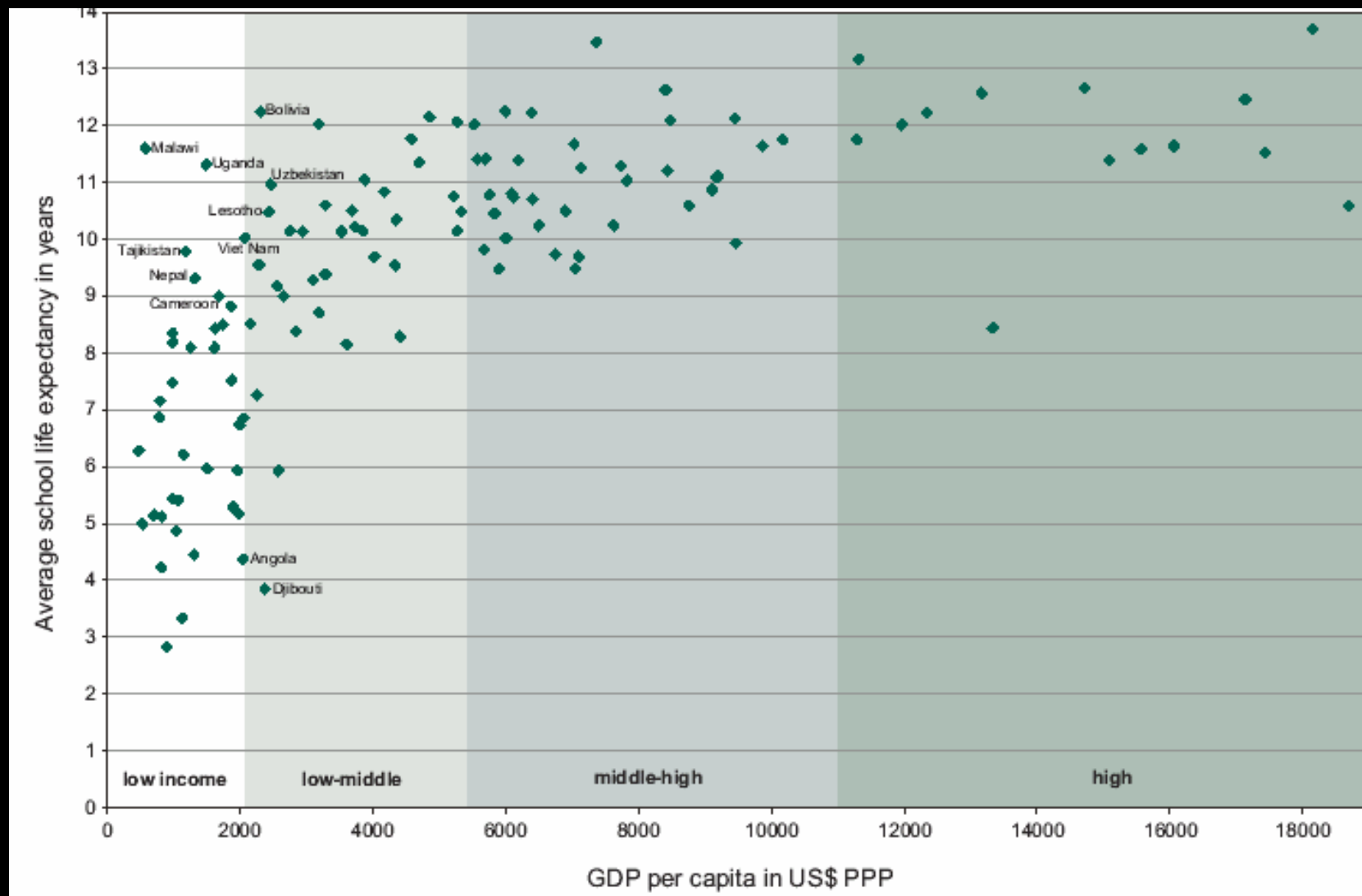
The first challenge for them is the emergence of global networks of innovation. In the last several years, a revolution has taken place in the nature and process of innovation in most industries, particularly those involving technology (such as telecommunications and consumer electronics). More and more new products and services are being developed collaboratively by an array of firms located around the world. In such distributed projects, each individual firm contributes only part of the solution, and the

How long can children expect to stay in school?



Source: UNESCO, 2004

How does length of schooling relate to national wealth?



Source: The World Bank, 2003

RTS Solution Overview

The Remote Transaction System (RTS) is a new technology solution. At the front-end, it comprises a point-of-sales device equipped with a

- Smartcard reader
- Printer for generating receipts
- Cellular networking capabilities
- Software developed for the device

At the back-end, the RTS includes an

- RTS server that captures and retains all point-of-sales transactions
- Connectors between RTS server and MFI's management information system (MIS)
- Connectors between MIS and accounting systems of each MFI

Each client or group uses a smartcard and personal identification number to authenticate and authorize transactions, which could be loan repayments, savings deposits, savings withdrawals, account transfers and balance lookups.

In a typical scenario, both a client and MFI agent authenticate themselves using their smartcards. Both parties next complete a transaction on the point-of-sales device. In the third-party agent model, payments are made between the client and a merchant, who is independent of the MFI. Cash is exchanged between the client and the independent agent when transaction details are entered into the point-of-sale device. Funds are then reconciled at the back-end at the end of the day. In the other two models, transaction information is also entered into the point-of-sales device, but funds are taken to the bank by a group representative in exactly the same way as they were before the introduction of the RTS.

