E-Learning: The Future of Universities in the 21st Century
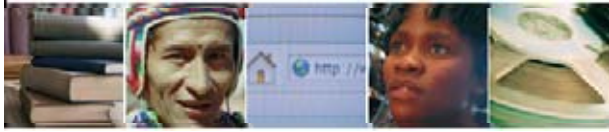
New Delhi ::: 6 August 2007

Abdul Waheed Khan

Assistant Director-General for Communication and Information
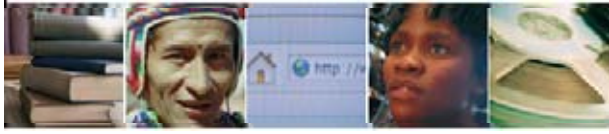
UNESCO

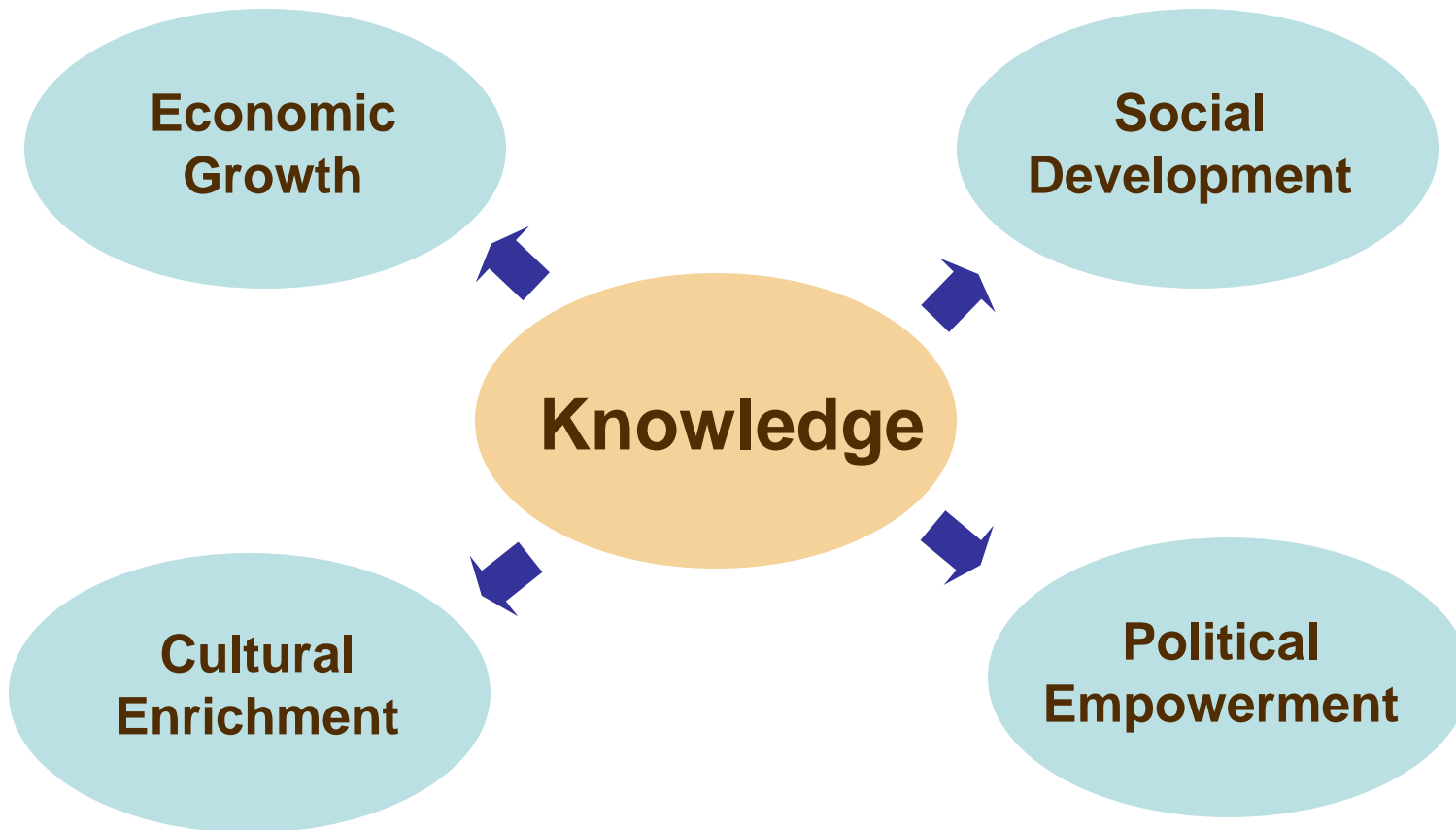"If knowledge is the engine of development, then learning is its fuel."

Hirotaka Takeushi

"The ability to create and maintain knowledge infrastructure, develop knowledge workers and enhance their productivity will be the key factors in deciding the prosperity of the knowledge society."

Abdul Kalam

Central Role of Knowledge for Development
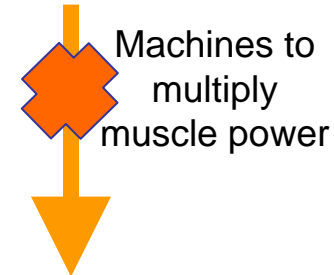
Millenium Development Goals

Social Transformation

"Half a hectare of land and one year of labour were required to feed one person in 1900; whereas that same half-hectare now feeds 10 persons on the basis of just one and a half days of labour".

UNESCO Science Report

Agricultural Society

Machines to multiply muscle power
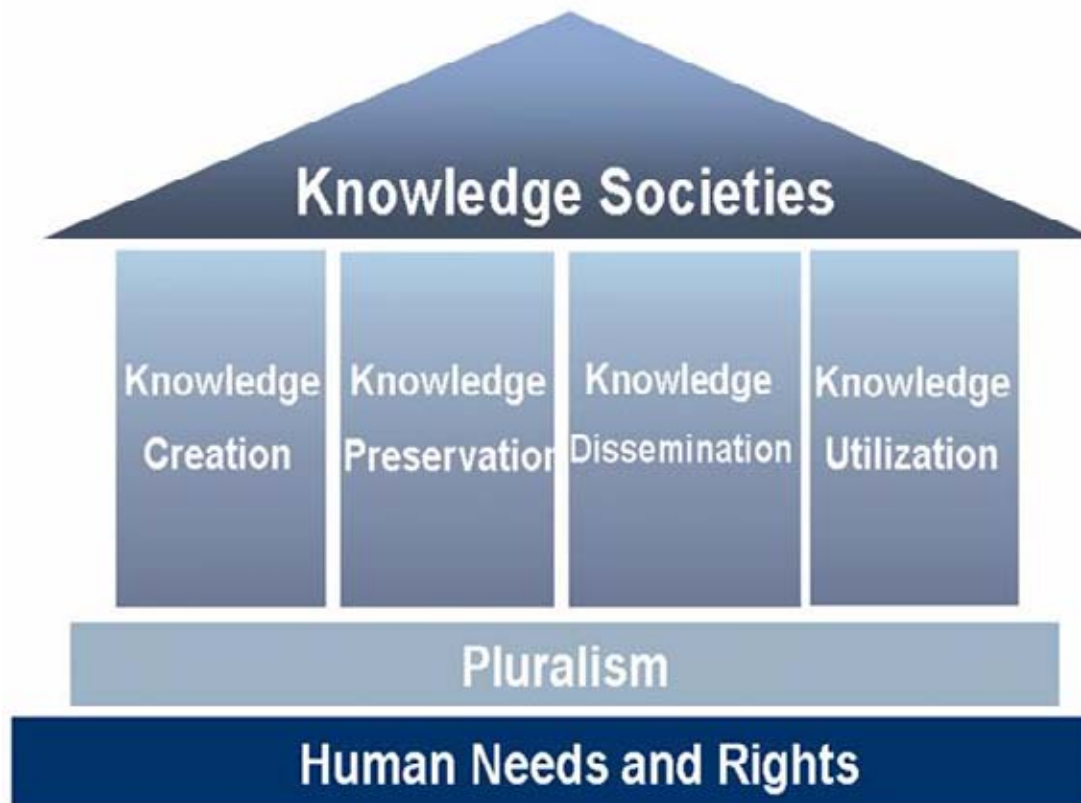
Industrial Society
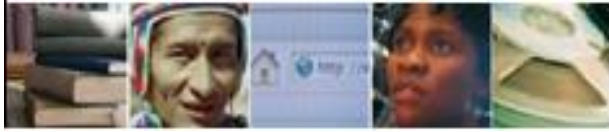
Knowledge to multiply brain power
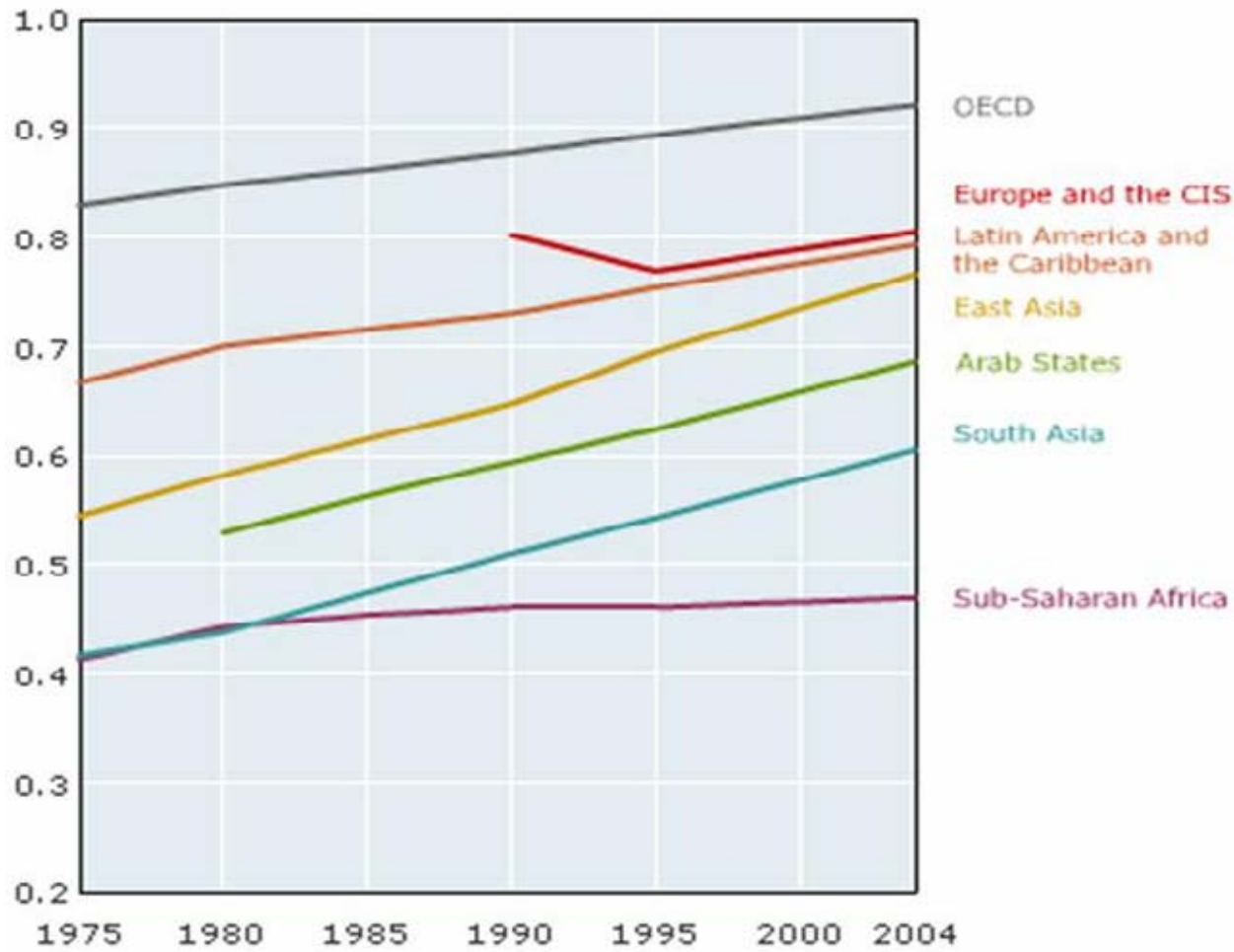
Knowledge Societies

6
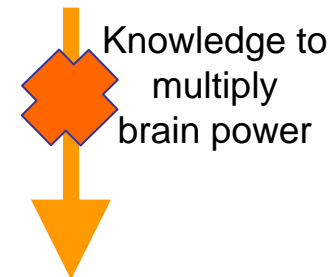
UNESCO's concept of Knowledge Societies

- Freedom
- Inclusiveness
- Diversity
- Empowerment

Human Development Index

Human development seems to slowly advance in all parts of the world

Trends of the Human Development Index (HDI)

Source:
UNDP Human Development Report, 2006

8

Fighting poverty

	1990
	2002
	2015 target

Sub-Saharan Africa — 44,6 / 44.0

Southern Asia — 39,4 / 31.2

Eastern Asia — 33,0 / 14,1

South-Eastern Asia and Oceania — 19.6 / 7.3

Latin America & the Caribbean — 11.3 / 8.9

Northern Africa and Western Asia — 2.2 / 2.4

Transition countries of South-Eastern Europe — 0.4 / 1.8

CIS — 0,4 / 2.5

Developing regions — 27,9 / 19,4
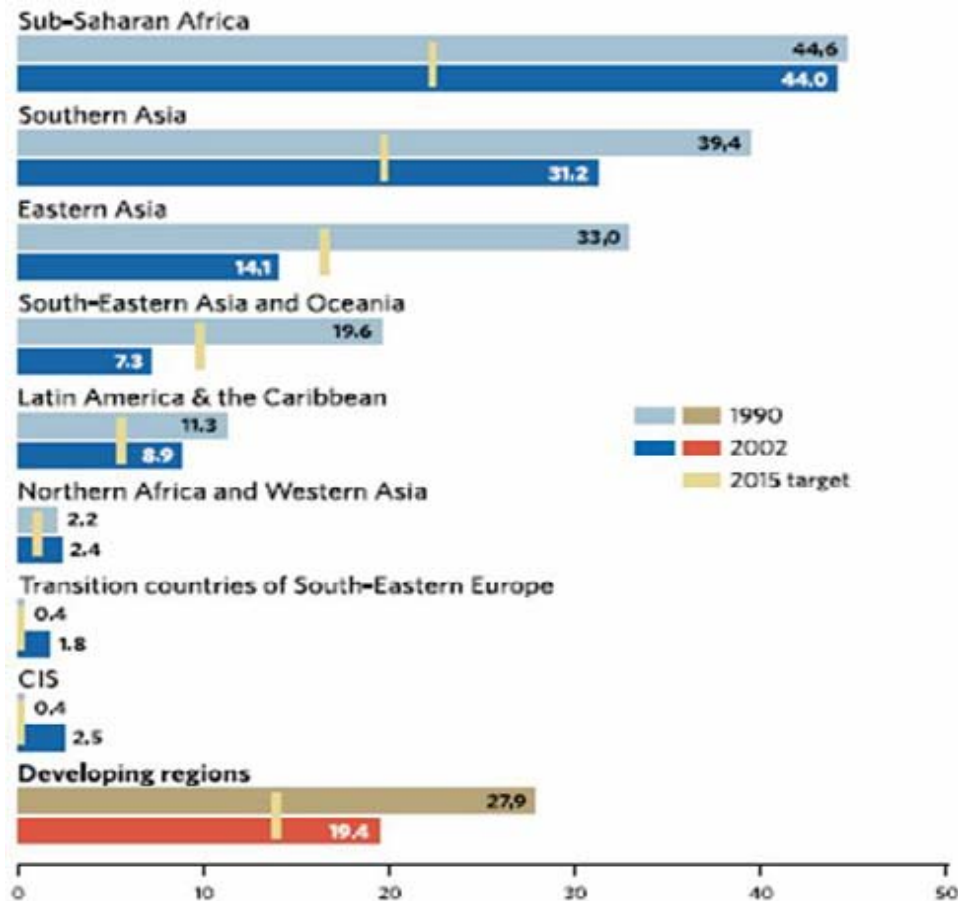
Asia leads the decline in global poverty

Percentage of people living on less than $1 a day, 1990 and 2002

Source:
The Millennium Development Goals Report 2006

9
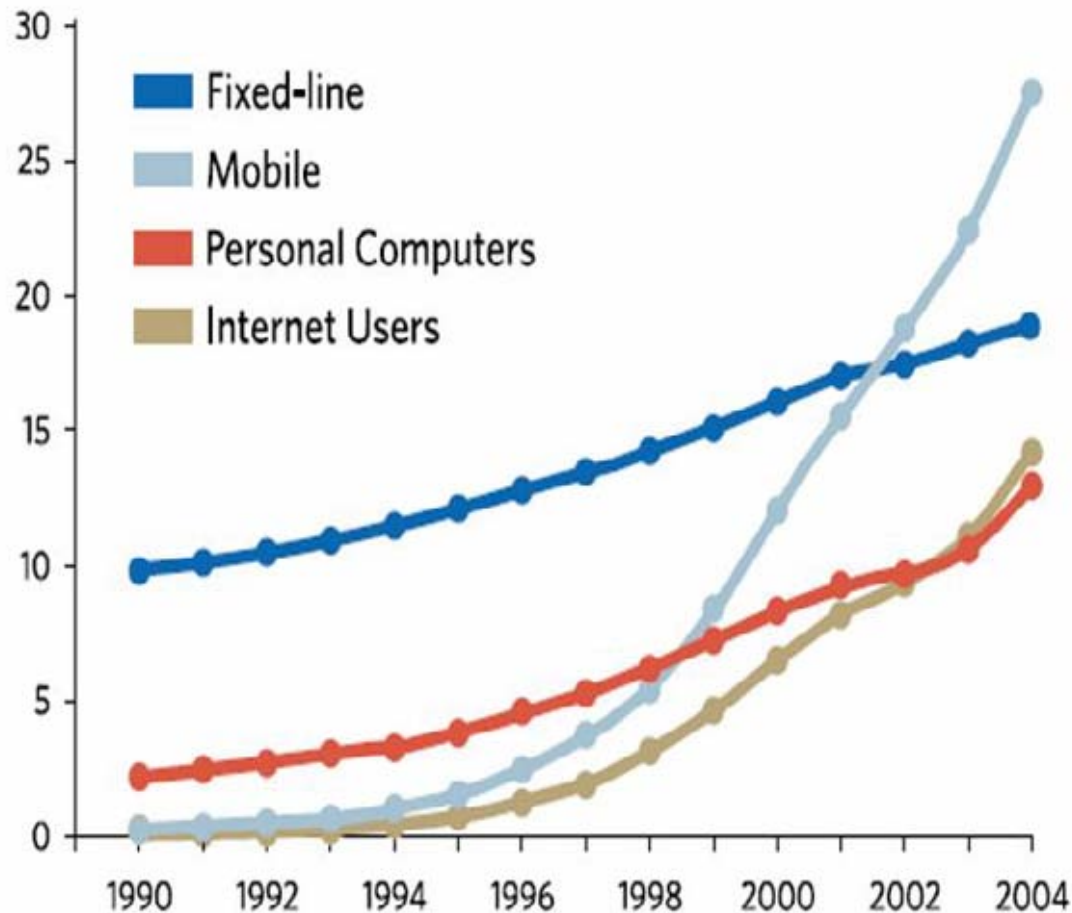
Digital Divide

Access to ICTs grows steadily, but 'digital divide' persists.

Percentage of world population with telephone subscriptions, PCs and internet connections, 1990-2004

Source:
The Millennium Development Goals Report 2006

10

A World of Contrast

Knowledge
Prosperity
Globalization
Inclusion

Knowledge Divide or Digital Divide

Ignorance
Poverty
Marginalization
Exclusion

Technology Transformation

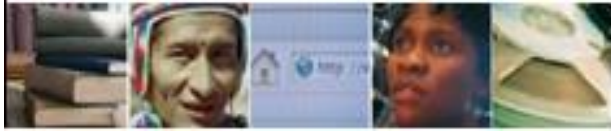# Role of Universities in Society (I)

Government → University: train policy-makers

University → Government: understand, assess and find solutions to policy challenges

University → Community: train professionals and business leaders

Community → University: understand, assess and find solutions to practical challenges

Association of Universities and Colleges in Canada, 2004.

Role of Universities in Society (II)

Directly contributing to economic growth

Fostering redistribution and empowerment

Strengthening the education sector

Adapting research and technology

Role 1: Contributing to Economic Growth

Directly contributing to economic growth by:

- Influencing national productivity and international competitiveness
- Training qualified and adaptable labour force
- Assisting a country to access and generate new knowledge, and adapting global knowledge for local use

From Aid to Global Sharing of Knowledge: Research Excellence and Commitment to Development, by William Saint, Lead Education Specialist, World Bank (Africa Region), 2004.

15

Role 2: Fostering Empowerment

Fostering redistribution and empowerment by:

- Fostering empowerment through the building of social capital
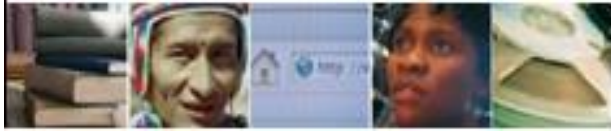
- Expanding opportunities for employability, income, and social mobility

From Aid to Global Sharing of Knowledge: Research Excellence and Commitment to Development, by William Saint, Lead Education Specialist, World Bank (Africa Region), 2004.

Role 3: Strengthening Education

Strengthening the entire education sector by:

- Training (and re-training) teachers, school principals and system managers

- Fostering curriculum development and evaluation of primary and secondary education

- Analyzing education performance, identifying problems, providing policy advice

From Aid to Global Sharing of Knowledge: Research Excellence and Commitment to Development, by
William Saint, Lead Education Specialist, World Bank (Africa Region), 2004.

Role 4: Adapting Research and Technology

Adapting research & technology engendering, e.g. improved food supply and rural incomes by:

- Training professionals - doctors, nurses, teachers and administrators - who will oversee and implement MDG activities

- Fostering capacities in research, applied technology and community service that are essential for improving welfare levels of the excluded

From Aid to Global Sharing of Knowledge: Research Excellence and Commitment to Development, by William Saint, Lead Education Specialist, World Bank (Africa Region), 2004.

18

Learning: Meeting the challenges

- Access and reach
- Equity and gender
- Quality and effectiveness
- Relevance and life-long learning
- Cost and efficiency
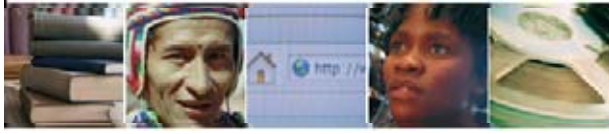
Change……

"It is not the strongest species that survive, nor the most intelligent, but the ones most responsive to change."

Charles Darwin

## Future of knowledge acquisition and sharing (I)

«Kronberg Declaration»

- Knowledge acquisition and sharing will be increasingly technology mediated

- Traditional educational processes will be revolutionized and new knowledge communities will be formed

- Need for long-term strategies to efficiently harness ICTs to develop new approaches

- Multi-stakeholder partnerships to provide sustained, long-term concrete solutions

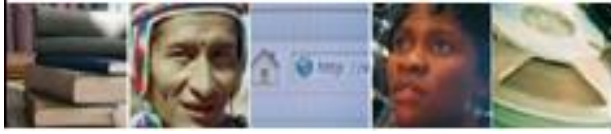## Future of knowledge acquisition and sharing (II)

«Kronberg Declaration» (continued)

- Need for open access content, open standards, open data structures, and standardized info-structures

- Creative business models to support the sustained creation and dissemination of high quality digital content

- Need for long-term availability of digital content and interoperability of e-learning systems at the global level
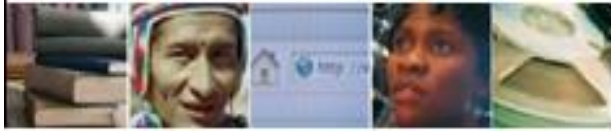
ICT in Learning (I)

- Improves educational quality
- Improves educational management
- Enables lifelong learning opportunities
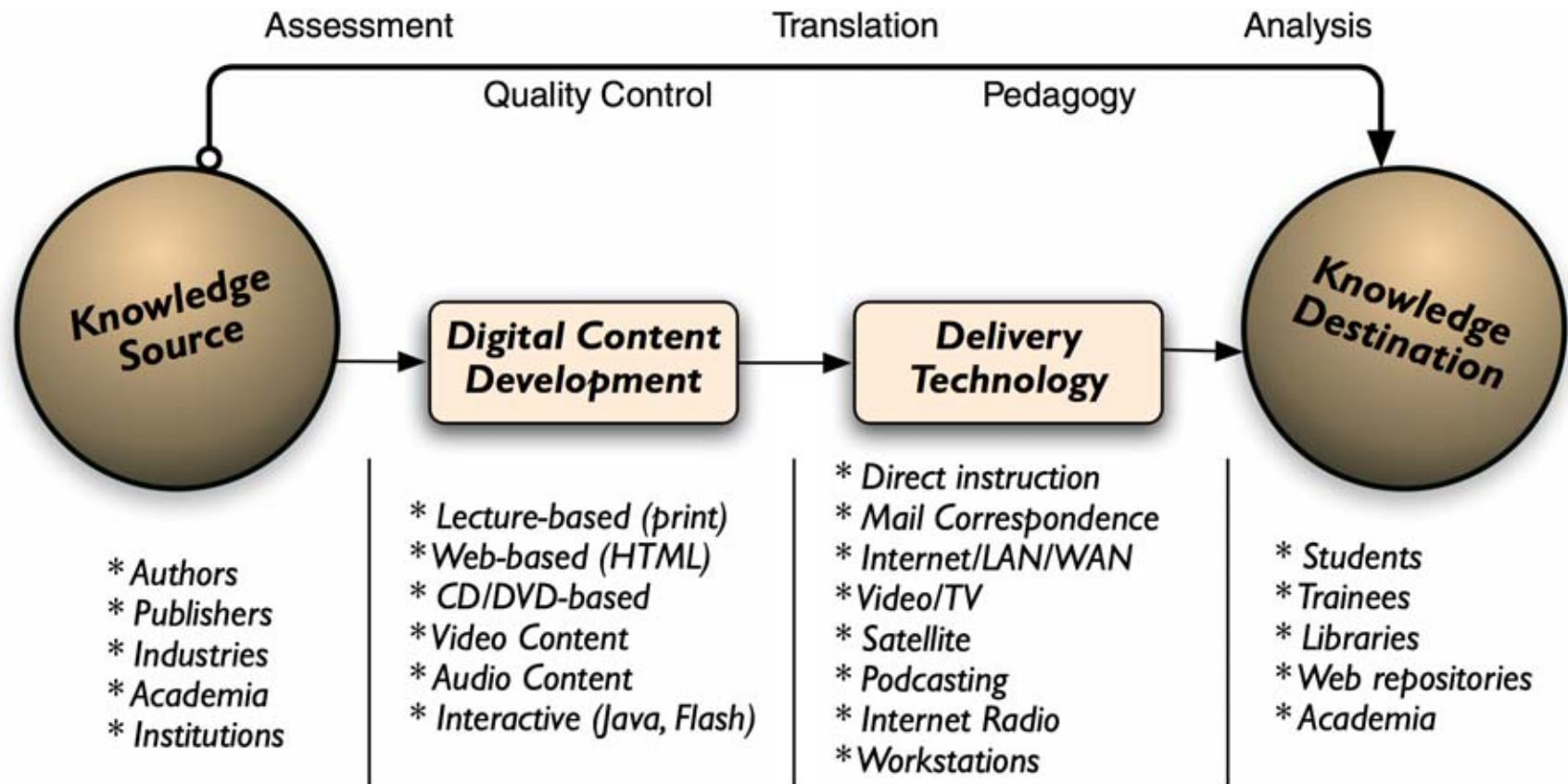- Enhances diverse and collective learning processes

ICT in Learning (II)

- Enables non-formal and informal learning environments

- Increases access to basic learning for everyone

- Has capacity to reach the disadvantaged
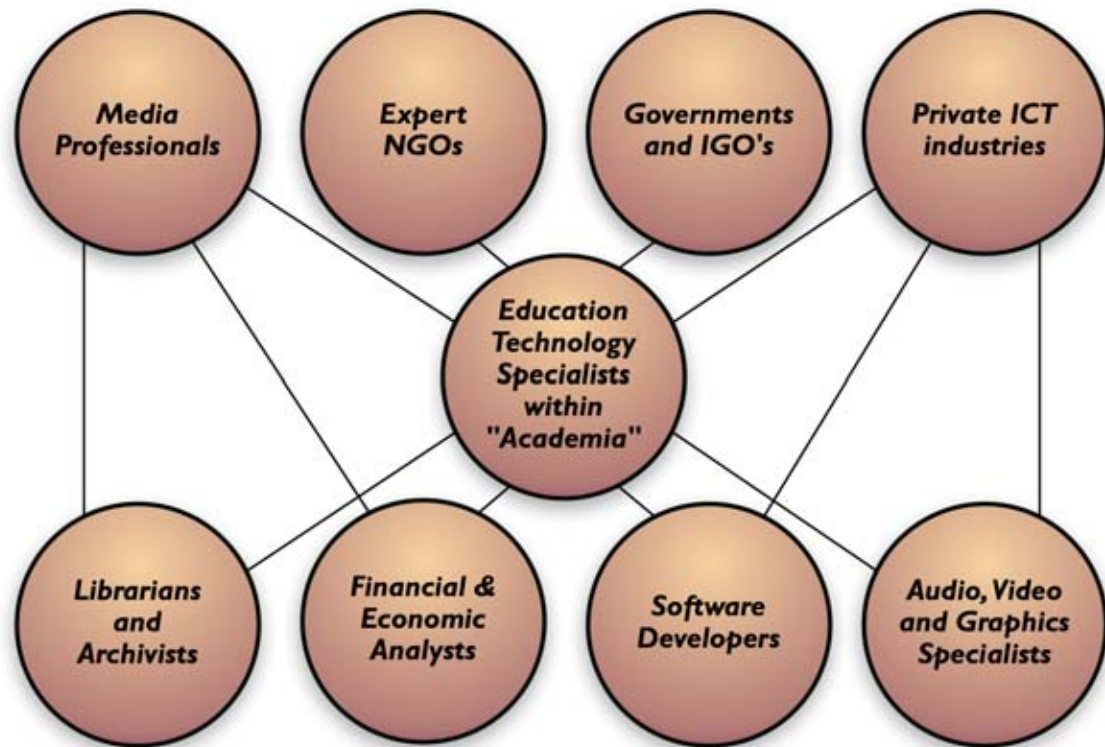
ICT in Learning (III)

Assessment   Translation   Analysis

Quality Control   Pedagogy

Knowledge Source → **Digital Content Development** → **Delivery Technology** → **Knowledge Destination**

* Authors
* Publishers
* Industries
* Academia
* Institutions

* Lecture-based (print)
* Web-based (HTML)
* CD/DVD-based
* Video Content
* Audio Content
* Interactive (Java, Flash)

* Direct instruction
* Mail Correspondence
* Internet/LAN/WAN
* Video/TV
* Satellite
* Podcasting
* Internet Radio
* Workstations

* Students
* Trainees
* Libraries
* Web repositories
* Academia

ICT in Learning (IV)

Requirements:
- Orchestrated effort
- Wide spectrum of competencies, skills and inputs
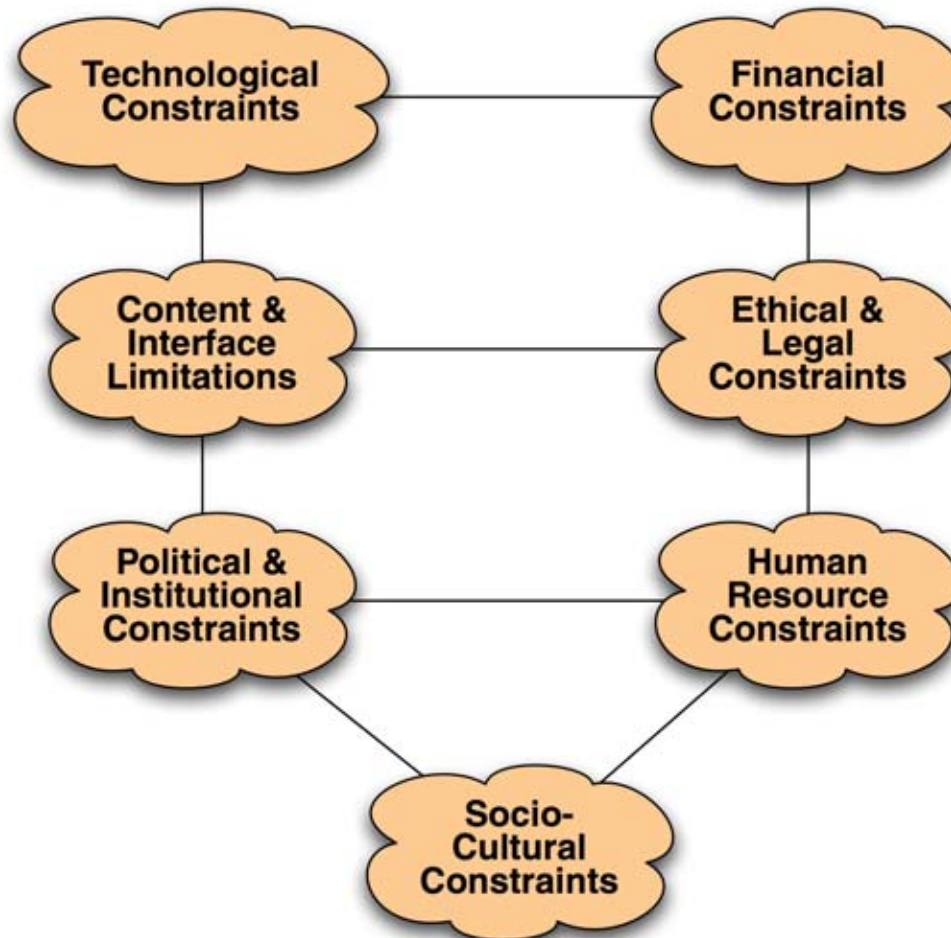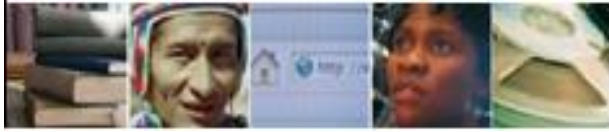
ICT in Learning (V)

- Information Infrastructure

- Communications Infrastructure

- Capacity Building and Skills Generation

- Digital Content (Creation and Dissemination)

- Educational Issues (Pedagogy, Instructional Design, …)

- Legal and Business Models
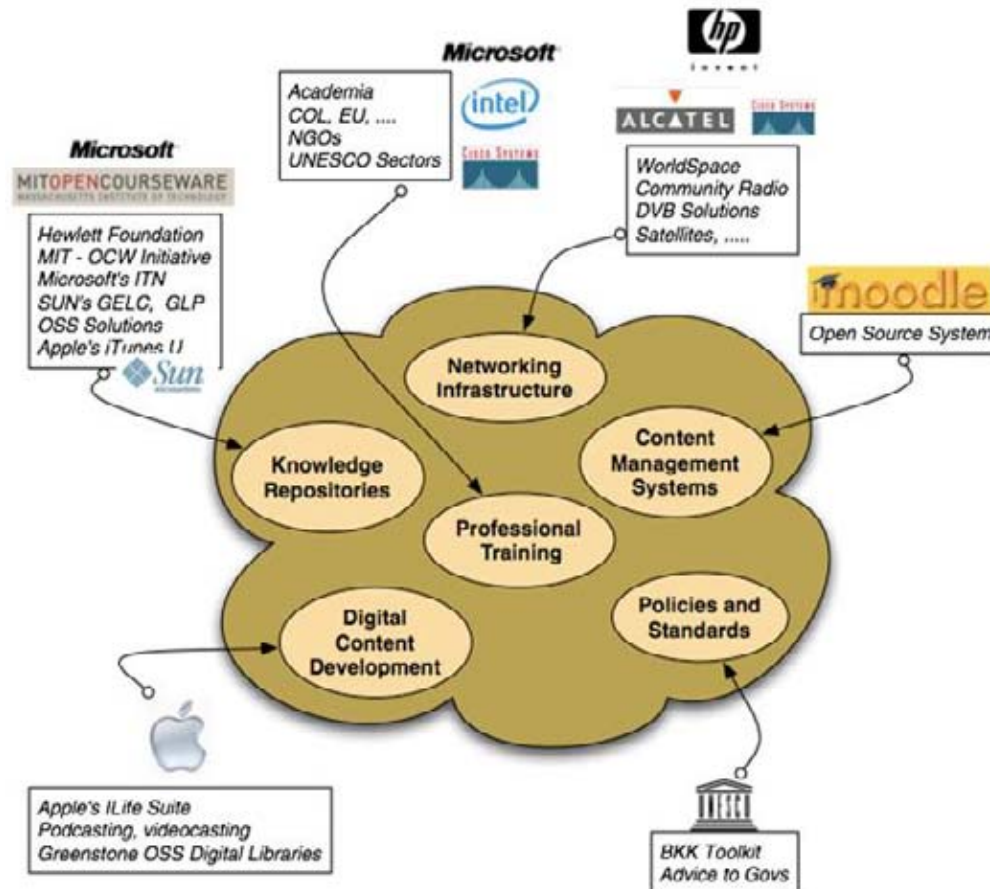 (IPR, CR, Incentives, …)
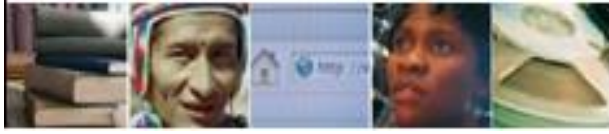
ICT in Learning (VI)

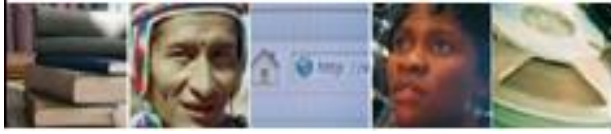**Constraints**

ICT in Learning (VI)

Public-private partnerships

Re-engineering Higher Education (I)

- Higher education's ability to change and to induce change and progress in society

- Higher learning and research as essential components of development

- Traditional education systems no longer sufficient to take up development challenges

- Higher education needs more radical change and renewal than ever before

- ICTs potential to re-engineer higher education

Re-engineering higher education (II)

ICT solutions for universities:

- Revolutionizing research and teaching

- Strengthening interactivity

- Promoting self-paced research, teaching and learning

- Enabling greater participation and better quality of distance and open learning
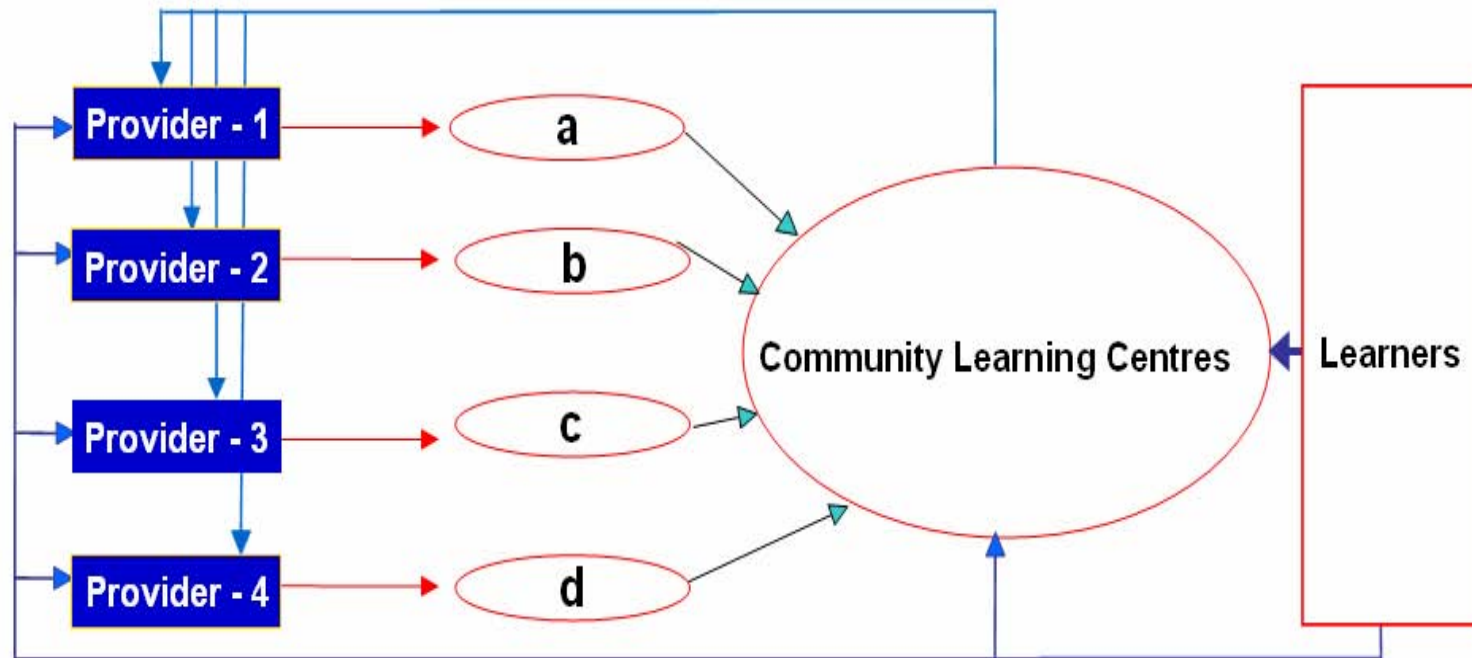
Re-engineering Higher Education (III)

The Unimaginable! … Expert Visions

- This 'telephone' has too many shortcomings to be seriously considered as a means of communication. The device is inherently of no value to us.
  Western Union, 1876

- Radio has no future.
  Lord Kelvin, President of Royal Society, 1897

- Everything that can be invented has been invented.
  Charles H. Duell, U.S. Office of Patents,1899

- I think there is a world market, for maybe five computers.
  Thomas Watson, Chairman of IBM, 1943

33

The Unimaginable! … Expert Visions

- Television won't be able to hold on to any market it captures after six months. People will soon get tired of staring at a plywood box every night.
Darryl F. Zanuck, Head of 20th Century Fox, 1946

- Computers in the future may… perhaps only weigh 1.5 tons.
Popular Mechanics,1949

- There is no reason why anyone would want a computer in their home.
Ken Olson, president and chairman, of DEC,1977

- 640K ought to be enough for anybody.
Bill Gates,1981

34