The Open Influence: Towards an Ecology of Abundance

M.S. Vijay Kumar

(...with a little help from my friends)

PNC 2010

From Digital Content to Knowledge Asset

Hong Kong

December 2, 2010
Network-enabled Open Education

Open
- Content
- Tools
- Knowledge
- Enabling Resources
  - Legal
  - Policy

Network
- Connectivity
- People/Communities
- Resources
- Activities

Quality
Educational Opportunity
Accelerating Global Movement

200+ OCWC Institutions
~ 10,000 Courses Online
~2,000,000 visitors/month
Open Education Resources

Learning Content

- Full courses, course materials, content modules, learning objects, collections, journals

Tools

- Software to support the creation, delivery, use and improvement of open learning content including searching and organization of content, content and learning management systems, content development tools, and online learning communities.

Implementation Resources

- Intellectual property licenses to promote open publishing of materials, design-principles, and localization of content.
OER as Key Strategy for Educational Advancement

- Commonwealth of Learning
- International Council for Distance Education (ICDE)
  - EADTU
- UNESCO
- Open Textbook Initiatives
- India: National Knowledge Commission
  - Capacity Building through Net Enabled Open education

Part of the Discourse on Educational Change
India: Capacity Building through Net Enabled Open education

- Network-based delivery needs to become a central modality for delivering quality education.
  - A blended process – intelligent combinations of physical and virtual elements.
  - Distributed Repositories, Domain-specific Grids and Portals, Interaction facilities, Robust connectivity

- Faculty and Institutional Development Program
  - Promote distance and network based delivery techniques
  - Develop domain competencies and teaching skills for quality education using quality faculty and high quality materials.

- National Portal for Open Education
  - Enabling resources for faculty and resource development
  - Clearinghouse function and an interaction environment
A Collaborative Publication Project

• “How can we advance teaching and learning by taking full advantage of open education?”

• A hardcover book + free online distribution with Creative Commons

• 30 chapters by 38 prominent leaders and visionaries (Foreword by John Seely Brown)

• Lessons learned and visions of the future from: OKI, IMS, CNI, Sakai, Moodle, ETUDES, iCampus, VUE, Mellon Foundation, OCW, Connexions, OLI, MERLOT, OpenLearn, SOFIA, Creative Commons, LAMS, Hewlett Foundation, CASTL, VKP, ISSOTL, Open University, Carnegie Foundation, and more

OPENING UP EDUCATION

The Collective Advancement of Education through Open Technology, Open Content, and Open Knowledge

edited by Toru Iiyoshi and M.S. Vijay Kumar

Opening Up Education: A Framework

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Opening Up Education: Key Dimensions

What does open education mean as an agency for change both in formal and informal education?

The educational value proposition and implications of open education initiatives

The factors that would propel these initiatives towards having a larger impact on education.
MIT OpenCourseware
1900+ courses

- Site Highlights
- Syllabus
- Course Calendar
- Lecture Notes
- Exams
- Problem/Solution Sets
- Labs and Projects
- Video Lectures
“Last semester, I had a course in metallurgical engineering. I didn’t have notes, so I went to OCW. I downloaded a course outline on this, and also some review questions, and these helped me gain a deeper understanding of the material.”

— Kunle Adejumo, Engineering student at Ahmadu Bello University, Zaria, Nigeria
“I was delighted by the way the material is so coherently presented. It is truly inspiring to see this level of excellence.”

— Prof. Richard Hall, LaTrobe University, Melbourne, Australia

Teaching Information Systems, Beginning Microprocessors, and Advance Computer-Aided Software Engineering
“It’s not simply the information that’s valuable, but also the glimpse OCW offers into how MIT has structured its teaching and research.”

- Professor Triatno Harjoko, Head of Department of Architecture at University of Depok, Indonesia, is using OCW to add interactivity to architecture instruction by his faculty.
“... even though I relied heavily on material from [Differential Equations], I had no idea how it was being taught—or what was being taught. ... I’d like to bring more of the technology into the classroom, so that while I was giving a lecture, I could give them a flashback to something they had seen in a previous course... This will create better linkages, and to fully integrate the learning experience.”

— Prof. Karen Willcox, Aeronautics & Astronautics
Teaches required aero/astro course to MIT juniors
Recent News

'Open Teaching': When the World Is Welcome in the Online Classroom
By Marc Parry

Why not invite the rest of the world to join students in an online class?
Some instructors are putting their teaching to just that test.

August 29, 2010

Online, Bigger Classes May Be Better Classes
Experimenters say diversity means richness
Transformative Potential: Changing the Ecology and Economics of Education

Access; Alternate Pathways; Adaptation;

- Teaching → Learning
- Scaling Excellence: Overcome the Iron Triangle of AQC (Daniel)

Blended Learning

Boundary-less Education

Continuous improvement

Continuous Education
Multimedia and Image Tools

- Bringing close reading to media (xmas)
- Visual narratives (Visualizing Cultures)
- Searching across media repositories

Spoken Lecture Browser

- Leveraging Content across Courses
- Media Notebooks
- Deeper Learning
iLabs:
“If you can’t come to the lab… the lab will come to you!”

U.S., Australia, China, India, Africa: iLabs Consortium

Order of magnitude more lab experiences
More lab time to users/researchers
More sophisticated labs available
Communities of scholars created around iLabs
Sharing educational & research content
Deeper Learning and Leveraged Resources

Lecture Browser
SPOKEN LANGUAGE SYSTEMS

Search for words: Angular Momentum
and/or pick a category: Physics
Examples: violin, "solar system", wine AND glass

25 results for Angular Momentum in "Physics"

1. Angular Momentum, Torques, Conservation of Angular Momentum, Spinning Neutron Stars, Stellar Collapse
Lecture 20, Physics I: Classical Mechanics, Physics, MIT, 1999 (Walter Lewin)

we're now entering the part of night oh one which is the most difficult for students and faculty alike ... we are going to enter the domain of angular momentum and torques it is extremely nonintuitive ... the good news however is that we will stay with this concept for at least four or five lectures today I will introduce both torque and angular momentum ... what is angular momentum if an object has a mass m ... and it has a velocity v ... then clearly it has a momentum ... p that's very well defined in your reference frame the product of m and v ... angular momentum ... I can take relative to any point. I choose this point q arbitrarily ... this now ... is the position vector which I call r of q ... let this angle be theta ... and angular momentum relative to that point q lets say it is m v

difficult for students and faculty alike ... we are going to enter the domain of angular momentum and torques it is extremely nonintuitive ... the good news however is that we will stay with this concept for at least four or five lectures today I will introduce both torque and angular momentum ... what is angular momentum if an object has a mass m ... and it has a velocity v ... then clearly it has a momentum ... p that's very well defined in your reference frame the product of m and v ... angular momentum ... I can take relative to any point. I choose this point q arbitrarily ... this now ... is the position vector which I call r of q ... let this angle be theta ... and angular momentum relative to that point q lets say it is m v
I think one central challenge of planning is legitimacy of government as a key institution that should be involved in bringing the change. The legitimacy of the government is under attack in many different parts of the world so that it has to be reestablished as a major planning institution. I think the second challenge for planning at least in the US or the west is that the market is...
Process and Platform for Collaborative Course & Curriculum
: Finding → Getting → Building

Discover

For example…
MIT OCW
OCW Consortium
Academic Earth
Wikipedia
NPTEL
iTunesU
YouTube

Collaborate

Collect

Learning Activities
Learning Objectives
Content

Construct
Inclusion and Exclusion: Social, Political, Economic and Cultural

Rural and Urban Livelihoods

Economic Inequality

Possible Resources

Conceptualising Power

Conceptualising Inequality
Activity << Poverty and Inequality << IIHS

http://open.iihs.co.in/poverty_and_inequality/activity

Home > Poverty and Inequality > Activity

Term 1 2011

Social Exclusion/Inclusion: South Asian vis-à-vis Western Discourse
By Mohan Das Manandhar
Rasani Bistascha

Background

The distinction is on account of the stratified system of caste and uncoupling socio-political practices of religion that prevailed in the South Asian societies for centuries which excluded a majority and most of the marginalized communities. This religious, social and political hierarchy not only dominate in the religious practice but also in the ongoing socio-political relations in the region. This religious and political hierarchy has influenced not only the political relations in the region but also played a crucial role in shaping the social structure. The contemporary social and political relations are characterized by the separation of the socio-economic classes including castes and religious based groups.

The South Asian political and socio-economic system which has great influence of religion, power and authority has the social structure in the region. The Hindu religion and its practices have a major role in the structure of the society. The contemporary social and political relations are characterized by the separation of the socio-economic classes including castes and religious based groups.

Discussion

Aroma: I think this article misses some of the major points...
Kavita: The article does include some of the issues most relevant
Social Exclusion/ Inclusion: South Asian vis-à-vis Western Discourse

By Mohan Das Manandhar
Rojan Bajracharya

Background

"Social Exclusion" — the term by itself originated in France in 1974 - has lineage to the enormous European literatures of 1950's and 60's on social division and inequality which emphasizes the severity of the poor or disadvantaged members of their European society who lacked in the adequate resources to achieve the acceptable standards of well being and the participation in the customary activities of society. Nevertheless, the social exclusion that exists in the South Asian societies since the traditional past before the discourse of Europe exhibits in some respects quite distinct feature from many other societies of the world.

South Asian Context

The distinctiveness is on account of the stratification system of caste and undergoing socio-political practices of religion that prevailed, in one form or the other in the South Asian societies for centuries which excluded a community as whole from common facilities or benefits. The religion, caste and ethnicity are the prime politically mobilizing factor and the base of social structure in the South Asian region. The religion, caste and ethnicity has influential role in any sort socio-political activities in the region ranging from anti-colonial movement against British rule to hot burning Nationalist and Matta movement of current days: military take over to separation of federal state. The crosscutting between the religious caste and ethnic communities gave birth to issues of communal identity politics including regional nationalisms and caste and ethnic based parties.

The South Asian political and socio structure which has great influence of religion, caste and ethnicity has the social exclusion in two lines — Purity/Impurity and Entammable/ Non-Entammable. Through religious angle, there is enslavement of majority religious group against religious minority group, Indigenous and Tribal. For instance, majority Muslims of Pakistan and Bangladesh dominates the Hindu minorities; Hindu majorities of India and Nepal dominate Muslims and Indigenous minorities. In term caste, Dalits are regarded as impure and enslaved by high caste group as their manuvi work (viz. broom, barber, plumber and other) are of low status. The contemporary fact of South Asian state and society is its adaptation of division of labor on the basis of caste with Dalits being lowest in this hierarchy. Dalits are spread in every country of South Asia. The South Asian societies have logically made caste system void but it has limited in word but not in practices. So, in many instance, South Asian politic has observed the rising of caste based political parties against such discrimination — viz. Beining Samajwadi Party, the ruling party of Uttar Pradesh of India, had evoked against Dalit discrimination in India. In term of ethnicity, the minority ethnic groups are enslaved by majority viz. Balochistan province, reality by deprived ethnic...
- What factors would help Open initiatives have a larger impact on education?

- How can we tightly integrate open education efforts with educational program priorities?
Readiness
Content and Culture

“Water, Water, Everywhere, Nor any drop to drink.”
— Coleridge, The Rime of the Ancient Mariner

■ Content Readiness
  ■ Addressing challenge of effectively finding, evaluating and making the best use resources in one’s own educational context.

■ Cultural Readiness
  ■ Embracing a culture of open in educational design, development, and delivery
    ■ *By Educators and Institutions, from the get-go.*
Content Readiness:
Finding….. Getting…. Using

- **Content Discovery and Re-use**
  - Link existing educational materials and aid in their discoverability; making it easier to utilize relevant educational materials in teaching and learning.

- **Community and Context:**
  - Collective intelligence: Social tagging and social networking tools to help find useful materials more quickly and to share best practice
  - Collaborative Annotation tools that will enable sharing of information and ideas through annotation of content in text, web, video.

- **Core Concept Catalog:**
  - Curriculum concepts, or “learning objectives”, mapped to OCW materials enabling the re-use of cross-disciplinary content.
    - Point of Need Learning; Guided Pathways
Challenge: Recasting Resources, Relationships and Roles

- Institutional Inertial Frames and Invariants
  - Scarcity vs. Abundance

- Recasting roles and values
  - Sense Making
  - Ordering the digital disorder
  - Pedagogical Shifts
    - Individual learning -> collaborative, social learning
    - Co-development of knowledge with learners

- Credentialing
  - Distributed over time and place
  - P2P and Self-Learning
We are seeing the early emergence of a meta-university—a transcendent, accessible, empowering, dynamic, communally constructed framework of open materials and platforms on which much of higher education worldwide can be constructed or enhanced.” --Charles M. Vest, President Emeritus, MIT, (p. 30).

Thank You

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In Search of Useful Open Resources

- **OCW Finder :: ocwfinder.org**
  - Search and browse across OCWs
  - OCW Consortium also has a search at
    [www.ocwconsortium.org/use/use-dynamic.html](http://www.ocwconsortium.org/use/use-dynamic.html)

- **OER Recommender :: oerrecommender.org**
  - “Related” resources from selected collections
  - Plug-in for Firefox

- **KEEP/Knowledge Commons**
  - Tacit Knowledge

- **Open Knowledge Initiative (O.K.I)**
  - OSIDS – Specifications for Portability, Interoperability
Project Greenfield

http://greenfield.mit.edu
Resource Sites

- web.sls.csail.mit.edu
- spokenmedia.mit.edu
- ocwfinder.org
- www.ocwconsortium.org/use/use-dynamic.html
- www.folksemantic.com
- oei.mit.edu
- vue.tufts.edu
- nptel.iitm.ac.in
- http://cnx.org/aboutus/technology/cnxml
Network Enabled Open Education

Open
- Content
- Tools
- Knowledge
- Enabling Resources
  - Legal
  - Policy

Network
- Connectivity
  - Wired; Wireless
  - Satellite; Cell; Mesh……
- Community

Quality Educational Opportunity
Accelerated Learning – OLI Challenges Conventional Wisdom

Learn by Doing: Learn By Doing

Does the graph of the following equation intersect the x-axis?

\[ y = \sqrt{x^2 + 1} \]

- Yes
- No
Bridging Research and Learning

**Biology**

Protein Visualization ([StarBiochem](http://star.mit.edu))

**Hydrology**

Watershed Mapping ([StarHydro](http://star.mit.edu))

16.00AJ - Fundamentals of Engineering Design: Explore Space, Sea & Earth