



Asia-Pacific
Economic Cooperation

2006/HRDWG/SYM/002

Agenda Item: 1

The Promise of Open Educational Resources

Purpose: Information

Submitted by: USA



**APEC Symposium on Open Source
and Open Course for E-Learning
Ha Noi, Viet Nam
4 - 6 December 2006**

JD33



A Project of The William and Flora Hewlett Foundation

The Promise of Open Educational Resources

APEC Symposium on Open Source and Open Course for e-Learning
Hanoi, Vietnam – December 4, 2006

Marshall S. Smith, Catherine M. Casserly
The William and Flora Hewlett Foundation



OPEN EDUCATIONAL RESOURCES



Slide 1

JD33 Program has different title:

"History and potential future for open
educational resources"
John Dehlin, 11/29/2006



OPEN EDUCATIONAL RESOURCES

Opening the World to Knowledge and Education

“He who receives an idea from me, receives
instruction himself without lessening mine; as
he who lights his taper at mine, receives light
without darkening me.”

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Thomas Jefferson



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“If you have knowledge, let
others light their candles with it.”

Sir Winston Churchill



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A Challenge: Too Many on the Outside, Looking In



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The Promise

The Progress

The Obstacles

The Future



The Promise

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What is OER?

- High quality educational content and tools
- Open on the Web
- All languages
- Usable and re-usable
- Available on any device



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The Vision:

- Equalize access to knowledge
- Dramatically improve learning



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Types of OERs

Open...

CourseWare...courses...books...
journals... images...video lectures...
textbooks...podcasts...lesson plans
encyclopedias



Efforts in...

Vietnam, China, India, Europe,
Africa, United States, Canada, Brazil

Universities, K-12, libraries, publishing



Three great strengths of OER

- Open (Free) for all on the web
- Open for downloading, using and reusing:
 - Personalization, cooperation, cultural and linguistic appropriateness
- These strengths are particularly useful for enhancing collaboration and fostering creativity for teaching and learning.



The Progress: Public Sector

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MIT OPEN COURSEWARE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

We invite you to [view all the MIT courses](#) available at this time.

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a free and open educational resource (OER) for educators, students, and self-learners around the world. It is true to MIT's values of excellence, innovation, and leadership.

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OpenCourseWare Consortium

OCW CONSORTIUM

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Find individual course listings on the following MIT OCW Department pages, or [view a complete course list](#).

- Aeronautics and Astronautics
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- Biology
- Brain and Cognitive Sciences
- Chemical Engineering
- Chemistry
- Civil and Environmental Engineering
- Comparative Media Studies
- Earth, Atmospheric, and Planetary Sciences

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FETP OpenCourseWare

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FETP OpenCourseWare

Inspired by the Massachusetts Institute of Technology's **OpenCourseWare Initiative (OCW)**, the **Fulbright School** has begun to publish its teaching and research materials online. **FETP OpenCourseWare** is not a long distance learning project, rather it is a resource for people working or studying in policy-related fields to increase their knowledge and explore new approaches to learning and curriculum development. Instructors are encouraged to adopt FETP's curricular materials for use in their own courses. Students may use FETP's materials to guide independent study, course syllabi, lecture notes, reading lists and problem sets used in many one-year mid-career program and executive education courses are already available online and over time **FETP OpenCourseWare** will include all Fulbright School materials (subject to copyright law). The Fulbright School participates with other academic institutions in Vietnam to promote the use of innovative long-distance learning activities.

- A guide to programs and courses 2006-2007 (PDF 1,305 KB)
- 2006-2007 Courses
- Course materials updated this month

Legal Notices: Course materials are made freely available under the terms defined by FETP OCW.

What they're saying about FETP and OCW

I encountered something of a shock when I arrived at FETP. In the past, when we learned about central planning we learned how to manage and control the economy. In the new economy we must learn how to use scarce resources efficiently. It is a very, very different point of view... We are learning how to change (from New York Times November 26, 2000).

Phan Hong Quan - Investment Consulting Manager, Saigon Securities Inc., Ho Chi Minh City

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MIT OPEN COURSEWARE
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ยินดีต้อนรับสู่ MIT OpenCourseWare เว็บไซต์ที่นำเนื้อหาการเรียนการสอนของมหาวิทยาลัย MIT มาเผยแพร่บนอินเทอร์เน็ต

เรื่องทั่วไป
คุณครูและนักศึกษาที่สนใจเรียน MIT OpenCourseWare สามารถดูรายชื่อรายวิชาที่เปิดสอนได้บนเว็บไซต์นี้

ติดต่อเรา
MIT OpenCourseWare มีเว็บไซต์ที่ให้บริการเกี่ยวกับ MIT OpenCourseWare ในหลายภาษา

เป็นที่ต้อนรับ
โครงการพัฒนารายวิชาบริการวิชาการ (OpenCourseWare) ด้านวิศวกรรมศาสตร์

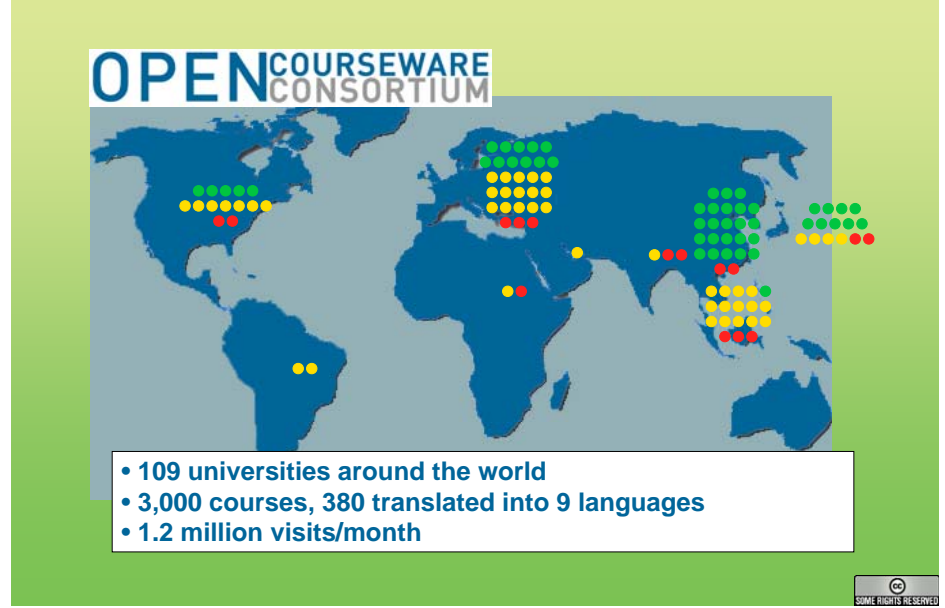
เกี่ยวกับโครงการ MIT OpenCourseWare
MIT OpenCourseWare เป็นเว็บไซต์ที่รวบรวมเนื้อหาการเรียนการสอนของ MIT มาเผยแพร่บนอินเทอร์เน็ต

MIT OCW นี้:

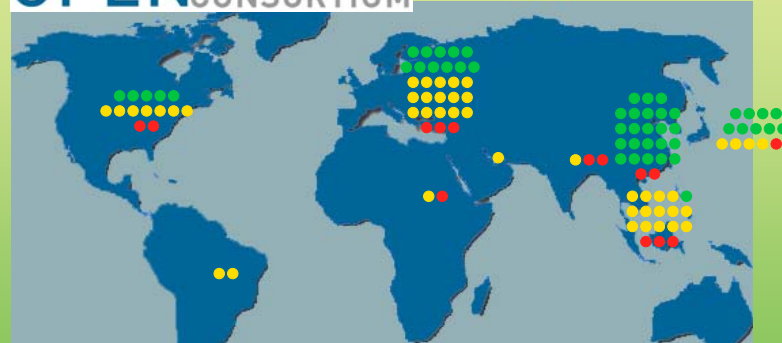
- เป็นเว็บไซต์ที่เผยแพร่เนื้อหาการเรียนการสอนของ MIT
- ไม่จำเป็นต้องลงทะเบียนเรียน
- ไม่มีการประเมินผล
- ไม่สามารถเข้าถึงเนื้อหาการเรียนการสอนของ MIT

ขอขอบคุณ MIT OCW เป็นโครงการที่สนับสนุนโดย William and Flora Hewlett Foundation, Andrew W. Mellon Foundation, and MIT

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- 109 universities around the world
- 3,000 courses, 380 translated into 9 languages
- 1.2 million visits/month

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FROM THE JOURNALS
A Genomic Approach to Identify Regulatory Nodes in the Transcriptional Network of Embryonic Acquired Neurons in Mice

REVIEW **OPEN ACCESS**

Genomic imprinting in Mammals: Emerging Themes and Established Theories

Andrew J. Wood, Rebecca J. Oakley*

The epigenetic events that occur during the development of the mammalian embryo are essential for correct gene expression and cell-lineage determination. Imprinted genes are expressed from only one parental allele due to differential epigenetic marks that are established during gametogenesis. Several theories have been proposed to explain the role that genomic imprinting has played over the course of mammalian evolution, but at present it is not clear if a single hypothesis can fully account for the diversity of roles that imprinted genes play. In this review, we discuss efforts to define the extent of imprinting in the mouse genome, and suggest that different imprinted loci may have been wrought by distinct evolutionary forces. We focus on a group of small imprinted domains, which consist of paternally expressed genes embedded within introns of multixonic transcripts, to discuss the evolution of imprinting at these loci.

Funding: We thank The Wellcome Trust (RJO) and The Generation Trust (AJW) for their support.

Competing interests: The authors have declared that no competing interests exist.

Editors: Harry E. MacDonald, Massachusetts General Hospital, United States of America

Citation: Wood AJ, Oakley RJ (2006) Genomic imprinting in mammals: Emerging themes and established theories. PLoS Genet 2(11): e147. doi:10.1371/journal.pgen.0020147

Published: November 24, 2006

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University Lectures

WGBH Forum Network

Religion:

- Fighting Words: Framing the Constitution**
Robin Morgan, writer
Robin Morgan discusses her new book *Fighting Words: A Toolkit for Combating the Religious Right*.
- The Darwin Conspiracy**
John Darnton, writer, 1982 Pulitzer Prize
John Darnton examines what current theories of intelligent design share with the arguments of Darwin's creationist critics and how they differ.
- An Eyewitness Account of Wrongful Execution**
Sister Helen Prejean, writer, activist
Joseph F. Savage, Jr., chairman, NE Innocence Project
Sister Helen Prejean discusses her life, her work as a spiritual advisor to death row inmates, and why she continues to fight to end capital punishment.
- European Muslim Identity in the New Millennium**
Mustafa Ceric, Grand Mufti, Republic of Bosnia and Herzegovina
His Eminence, Dr. Mustafa Ceric addresses some of the issues and challenges resulting from the presence of several million Muslims in Europe.
- American Theocracy: Radical Religion, Oil, and Debt**
Kevin Phillips, former Republican strategist
Kevin Phillips describes how world dominating powers historically typically unravel through global overreach, militant religion, resource problems, and ballooning debt.
- George Washington's God**
Michael Novak, former US ambassador
Michael Novak discusses his new book about George Washington's deeply religious values and how they impacted his role in the founding of this country.
- The Left Hand of God: Responding to the Religious Right**
Rab. Michael Lerner, rabbi, writer, editor

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XML technology enables **remix** into
customized web courses and inexpensive
print textbooks

peer review for **quality control**

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The Progress:

Commercial Sector



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Sustainability: Leveraging the “Long Tail”



“Big Hits”

What are the “non-hits” in your archives?


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Slide 24

JD78 keep long tail. examples not quite right

What are web sites in the early box. ping luke chu.
John Dehlin, 11/29/2006

The Obstacles

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Some of The Obstacles

- Intellectual Property
- Localization and Translation
- Interoperability
- Sustainability

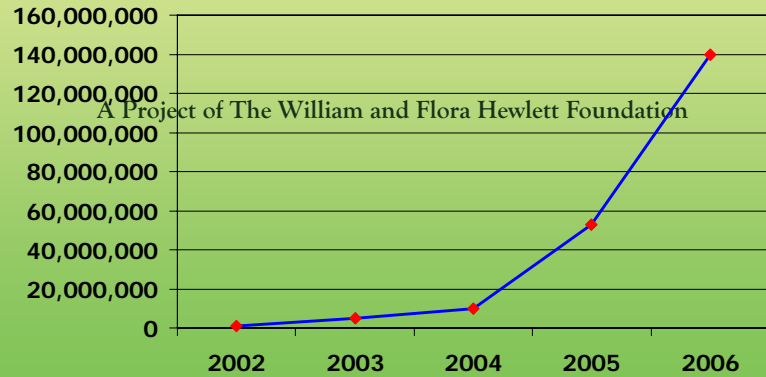


Intellectual Property: Creative Commons

- Offers open or semi-open copyright licenses.
- Adopted in 41 countries and growing.
- Yahoo, Google and Flickr all have Creative Commons search pages



Creative Commons Licenses - Growing Adoption



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Translation: CORE, OOPS and Universia

The collage shows three educational resource websites. On the left is MIT OpenCourseWare, a platform for sharing MIT courses. In the center is the CORE website, which promotes open sharing of educational resources between Chinese and international universities. On the right is the OOPS website, which focuses on open sharing of educational resources among Chinese universities.



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The Future

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A Revolution in Learning



New Economy Requires Old + New Basics

- Facts & skills based
- Teacher controlled
- Work alone
- Avoid failure
- Discipline based

- Deeper understanding
- Student controlled pace
- Creative by creating
- Work in groups
- Synthesize and analyze
- Try, fail and try again



NOW is the TIME. A first Major change in what we know about learning:

- cognitive science
- pedagogy
- possibilities from brain research



are leading to new applications of technology in education



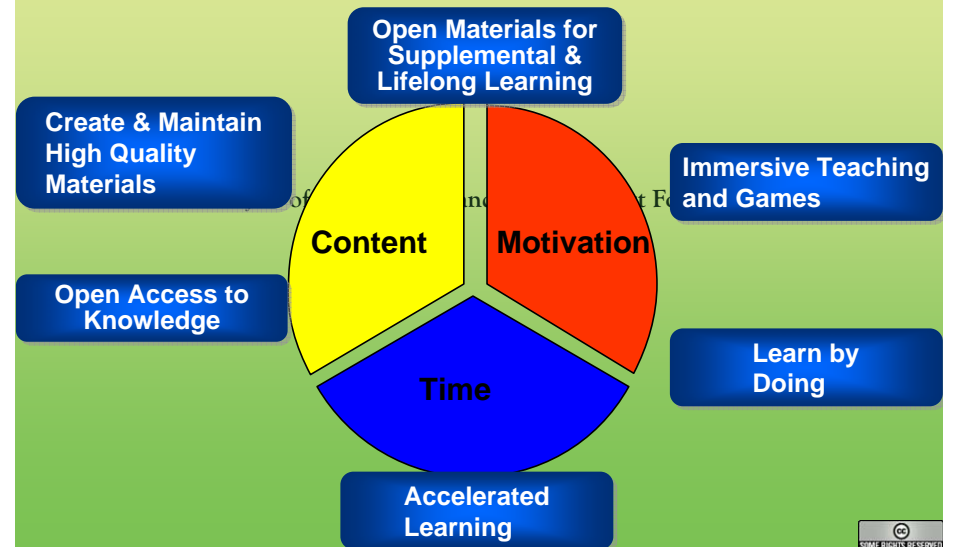
More bandwidth, increasing processing power, ubiquitous connectivity, rapid growth of mobile devices, decreasing costs...



Increase capacity to access, collaborate, personalize, and create



Learning = f(Content, Motivation, Time) x Technology





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Universal Open World Library

Content

- **Books** in millions: Google and other digitization projects
- **Library collections** worldwide: U.S., France, UK
- **Journals:** Public Library of Science
- **Videos** of documentaries and lectures: BBC, Public Broadcasting System



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JD67

Create, Maintain and Share High Quality Materials

Fast feedback loops that engage rapid cycles of improvement of teaching materials

Content



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Slide 37

JD66 John Dahlin, 11/29/2006
 JD67 include John Dahlin, 11/29/2006


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JD57

Learn by Doing

To become a scientist, architect, or computer programmer... must learn to think and practice like one



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MIT iLabs

Discover Babylon

Surgery Simulator

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Accelerated Learning: Cognitively Informed Web- based Instruction



Open Materials for Supplemental & Lifelong Learning

*Give choices and control over when,
where, and how to learn*

A Project of The W



JD56 keep

not quite right.. too focused on game.

lifelong learning/adults

John Dehlin, 11/29/2006



Immersive Teaching and Games

Learn through structured play



Federation of American Scientists: *Immune Attack*



William a

UN World Food Program: *Food Force*



Carnegie Mellon: *PeaceMaker*



JD58 Keep

Enlarge it or something.

John Dehlin, 11/29/2006



Learning = f(Content, Motivation, Time) x Technology

- Open access to a massive library of knowledge for all
- Learn structured education material anytime, anywhere, and on any device
- User-centric improvement of education materials
- Accelerate learning -- learn 2 – 3 times faster
- Motivate students by learning to be professionals
- Promote creativity, problem solving, control of learning..... through games, immersive environments



These ideas are just the beginning.
What might we do?



1. Invest in development of cognitive tutors, games, simulations and better education materials
2. R&D on more complex immersive environments to support learning by doing
3. Change incentives in the system:
 - Reward creative uses of technology
 - Give course credit without seat time
 - Change tests to assess creativity

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Iterate toward excellence

“Players watch one another’s videos, record their own – multiplies the channels by which musical innovation circulates” – NY Times



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