Class Dismissed?

Preparing for Dematerialized Learning

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Encyclopaedia Britannica To End Print Edition, Go Completely Digital

Posted on March 14, 2012 by tpanelas

Move marks latest step in firm’s evolution to digital education and instruction

CHICAGO, March 14, 2012—Encyclopaedia Britannica, Inc., announced today that it will cease publication of the 32-volume printed edition of its flagship encyclopedia, continuing with the digital versions that have become popular with knowledge seekers in recent decades.

The Encyclopaedia Britannica, which has been primarily an online product for almost 20 years, will cease to be available in book form for the first time in 244 years when the current stock runs out. It was originally published in Edinburgh, Scotland in 1768 and has been in print continuously ever since.

The move is the latest in a series the company has made over many years in the direction of digital publishing and a wider range of educational products.

“The end of the print set is something we’ve foreseen for some time,” said Jorge Cauz, president of Encyclopaedia Britannica, Inc. “It’s the latest step in our evolution from the print publisher we were, to the creator of digital learning products we are today.”


As Britannica expanded and diversified its Internet reference services in the years since, it also used its acquired expertise...
“The Great Cost Shift”

- Real state spending on higher education per public FTE dropped by 26.1 percent from 1990-1991 to 2009-2010.

- Institutions have balanced the funding equation by charging students more. Between 1990-1991 and 2009-2010, published prices for tuition and fees at public four-year universities more than doubled, rising by 112.5 percent, after adjusting for inflation, while the real price of two-year colleges climbed by 71 percent.

Demos, Mar-2012 – Funded by Kresge and Gates Foundations
Tenured: 45% in 1975; 25% in 2009
PT/Grad: 45% in 1975; 60% in 2009
“Higher Ed is a bubble...”

“Education is a bubble in a classic sense ... it’s extremely overpriced. People are not getting their money’s worth ... and at the same time it is something that is incredibly intensively believe. It is, to my mind, in some ways worse than the housing bubble.”

Peter Thiel, Founder/CEO, PayPal
“... and I hold the pin”

“I can’t teach at Stanford again. I feel there’s a red pill and a blue pill. And you can take the blue pill and go back to your classroom and lecture your 20 students. But I’ve taken the red pill, and I’ve seen Wonderland.”

Sebastian Thrun - Udacity
Free online university classes for everyone.

CS101: Building a Search Engine

CS212: Design of Computer Programs

CS253: Web Application Engineering
MITx

- MITx offers a portfolio of MIT courses for free to a virtual community of learners around the world.
- It will also enhance the educational experience of its on-campus students, offering them online tools that supplement and enrich their classroom and laboratory experiences.
"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is most adaptable to change."

Charles Darwin
When you come to a fork in the road, take it.

Yogi Berra
To Stay On Top, The U.S. Must Invest In Research Universities

Guest post written by Craig Barrett

Craig Barrett is CEO Emeritus of Intel, co-chair of the Skolkovo Innovation Centre and chairman of the Berkeley Lab Advisory Board.

The road to economic success has been pretty bumpy so far this century. Over-speculation in real estate, excessive government spending, unfunded and unaffordable pensions, the collapse of financial institutions, and the worldwide competition for jobs have all exacted their toll. As individuals, companies and countries search for something magical to promote a competitive future, there is strong evidence that the ultimate wealth-creating machine is something created here in America and increasingly being noticed and copied by...
The disruptor’s credo

I could do that a lot better for a lot less money.
March 18, 2012

A Boom Time for Education Start-Ups
Despite recession investors see technology companies' 'Internet moment'
3 trends for the coming decade

- eReading will penetrate higher education as it has pleasure reading
- New business models for materials acquisition will make much more available for much less
- Digital learning tools will make dematerialized higher education a feasible, if not desirable, alternative to traditional degree completion
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Apple sells 3 million new iPads in 3 days

Apple said it sold 3 million of the new iPad tablet computers over the weekend, setting a company record.

It was "the strongest iPad launch yet," says Philip Schiller, Apple's senior vice president of worldwide marketing.

The first iPad in 2010 sold 300,000 on its first day, and it took 28 days to get to 1 million. Apple didn't announce initial iPad 2 sales in 2011, but estimates ranged from 400,000 to about 1 million during the first four days.
The rise of e-reading

21% of Americans have read an e-book. The increasing availability of e-content is prompting some to read more than in the past and to prefer buying books to borrowing them.

by Lee Rainie, Kathryn Zickuhr, Kristen Purcell, Mary Madden and Joanna Brenner

Summary of findings

One-fifth of American adults (21%) report that they have read an e-book in the past year, and this number increased following a gift-giving season that saw a spike in the ownership of both tablet computers and e-book reading devices such as the original Kindles and Nooks. In mid-December 2011, 17% of American adults had reported
Engaging Students with eTextbooks: Leveraging Digital Course Materials to Support Effective Pedagogy

Friday, February 24, 2012; 12:00 - 1:00 p.m. Eastern

This is a virtual event for faculty at Indiana University.

The Wiley Faculty Network invites you to attend a virtual event to share your knowledge and teaching experiences with your Indiana University colleagues. Join us for a wealth of ideas, activities and practical advice that you can put to immediate use in your classroom. Register below and get ready to learn, share your ideas, and enjoy this virtual collaboration!

This virtual presentation will be offered free of charge - feel free to attend from your office, from a conference room with your colleagues, or from the comfort of your own home. All you need is a computer with speakers and high speed internet access!

Event Topic:

Today's innovative technologies influence the expectations, behaviors, and skills our students now bring to the classroom. To engage them effectively, we must understand the impact these technologies have on their learning and development. The rise of eTextbooks offers opportunities to engage today's wired students in pedagogically effective ways. In this interactive virtual presentation, Simone Conceição, Associate Professor at University of Wisconsin-Milwaukee, will share strategies to adapt course design and pedagogy to improve student learning with eTexts. Used intelligently, eTexts can exceed students' expectations, adapt to changes in behaviors, and
3 trends for the coming decade

- eReading will penetrate higher education as it has pleasure reading
- **New business models for materials acquisition** will make much more available for much less
- Digital learning tools will make dematerialized higher education a feasible, if not desirable, alternative to traditional degree completion
“Move the tollbooth”

1. **Drive down the cost** of materials for students
2. Provide high quality **materials of choice**
3. Enable **new tools** for teaching and learning
4. **Shape the terms** of **sustainable models** that work for students, faculty, authors...etc.

Brad Wheeler
Vice President for IT & CIO, Indiana University
Spring 2012 Semester @ IU

- faculty opt-in
- 130 course sections – 5,300 students
- Sections spanned technology, math, the sciences, politics, media, psychology, etc.
- IU deals beat best retail eText pricing 96%
- Students saved on average $25 per book
  - Around $100,000 in collective savings

http://etexts.iu.edu
Wiley Online Engineering Collection

Quality • Affordability • Choice

The Wiley Online Engineering Collection is an innovative new ebook collection that puts Wiley’s most popular engineering titles just a click away for all your students. When your College of Engineering subscribes to the WOEC, all students in your college can access the collection to select those ebook(s) that are most important to them. This innovative subscription model delivers the following key benefits to your students:

- **Choice:** Each student gains access to the ebook(s) of their choice from WOEC, ensuring both relevance and value.
- **Affordability:** Because your College subscribes to WOEC, you save a significant amount per student versus standard textbooks.
- **Quality:** As a collection of Wiley’s most popular engineering titles, WOEC will ensure your students access only the best engineering content.
3 trends for the coming decade

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Student View of Task

Task 1

Directions
The uniform 80-lb bar with small end rollers is supported by the horizontal and vertical surfaces and by wire AC. Calculate the tension T in the wire and the forces at A and B. Solve by using two moment equations and one force equation.

Evaluation Method
A rubric is used in this Evaluation. Name of rubric: ABET Criterion 3 Rubric (Engineering) [View rubric] Final scoring method: Score is automatically computed based on rubric criteria scores
Evaluation of Student Response

Task 1

\[ \theta = \tan^{-1} \frac{2}{3} = 33.7^\circ \]

\[ 4B - 80(3/2) = 0 \]
\[ B = 30 \text{ lb} \]

\[ (T\cos 33.7^\circ)4 - 80(3/2) = 0 \]
\[ T = 36.1 \text{ lb} \]

\[ \Sigma F_y = 0: \ A + 36.1 \sin 33.7^\circ - 80 = 0 \]
\[ A = 60 \text{ lb} \]
## Performance by ABET Criteria

### ABET Criterion 3a

<table>
<thead>
<tr>
<th>Rubric Criteria</th>
<th>Authors evaluated</th>
<th>Results for Group</th>
<th>Graph (avg. for group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABET Criterion 3a - An abili...</td>
<td>15 of 39 (38.46%)</td>
<td>Avg.=2.40/3 (80.00%)</td>
<td><img src="image" alt="Graph" /></td>
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<tr>
<td>Folio Area: Kinematics of Particles: Task 1</td>
<td>12 of 39 (30.77%)</td>
<td>Avg.=2.17/3 (72.22%)</td>
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<td>DRF Template: Dynamics Course (Engineering)</td>
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<tr>
<td>ABET Criterion 3a - An abili...</td>
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<tr>
<td>Folio Area: Equilibrium: Task 1</td>
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<tr>
<td>DRF Template: Statics Course (Engineering)</td>
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<tr>
<td><strong>Average of 2 Criterion Averages</strong></td>
<td><strong>2.28/3</strong></td>
<td><strong>76.11%</strong></td>
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### ABET Criterion 3c

<table>
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<th>Rubric Criteria</th>
<th>Authors evaluated</th>
<th>Results for Group</th>
<th>Graph (avg. for group)</th>
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<tr>
<td>ABET Criterion 3c - An abili...</td>
<td>12 of 39 (30.77%)</td>
<td>Avg.=2.21/3 (73.61%)</td>
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<td>Folio Area: Kinematics of Particles: Task 1</td>
<td>8 of 39 (20.51%)</td>
<td>Avg.=2.50/3 (83.33%)</td>
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<td>DRF Template: Dynamics Course (Engineering)</td>
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<tr>
<td><strong>Average of 2 Criterion Averages</strong></td>
<td><strong>2.35/3</strong></td>
<td><strong>78.33%</strong></td>
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Problem Statement
Create a simple and efficient way of pumping water utilizing a human-powered bicycle for communities where electricity is unavailable or impractical.

Prospective Users
Isolated community with or without electricity in need of efficient water pumping. Pumps can be adapted to fit individual community needs.

Overview
The design concept utilizes a stationary pump and bike attached by a belt. The station is positioned over a shallow well. The mechanical energy produced by pedaling the bike draws water from the well. The design saves electricity, money, and time.

Initial Design

Pump
- Piston pump
- Gear system will convert rotation
First Year Design Project

Team Presentation

For our project, we designed and built a bicycle-powered water pump using Archimedes’ screw concept that both pumps and filters water.

The design concept could be applied as a means to produce clean drinking water in developing communities.

The photo is from our live demonstration at the Design Expo.
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