The use of e-Textbooks in Higher Education:
A Case Study

Torsten Doering, Assistant Professor

Luiz Pereira, Assistant Professor

Linda Kuechler, Department Chair
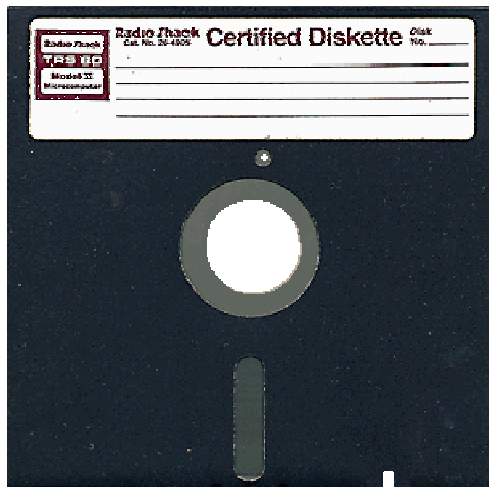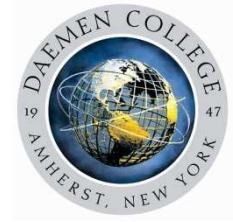Daemen College, Amherst, New York, USA

Daemen College

Overview

- Intro and trends
- Usage of e-textbooks as seen by college students
- Diffusion of technology
- Perceived benefits
- Impact on teaching and learning
- Alternatives and costs
- Focus groups
- Further research

"New Products"

Business Models & Expectations

- Changing student behavior and changing nature of textbooks
- Buy, rent (book or chapter), time limited access, ability to edit
- Role of publishers, print on demand

- Improve learning outcomes
- Improve productivity
- Reduce costs

U. S. Trends

- e-books:
  $500M sales, 8-10% share, >150% growth

- e-textbooks in higher education >3%,
  within 7 years market domination

- ~ 20% of students purchased an e-textbook

U.S. E-textbook Sales
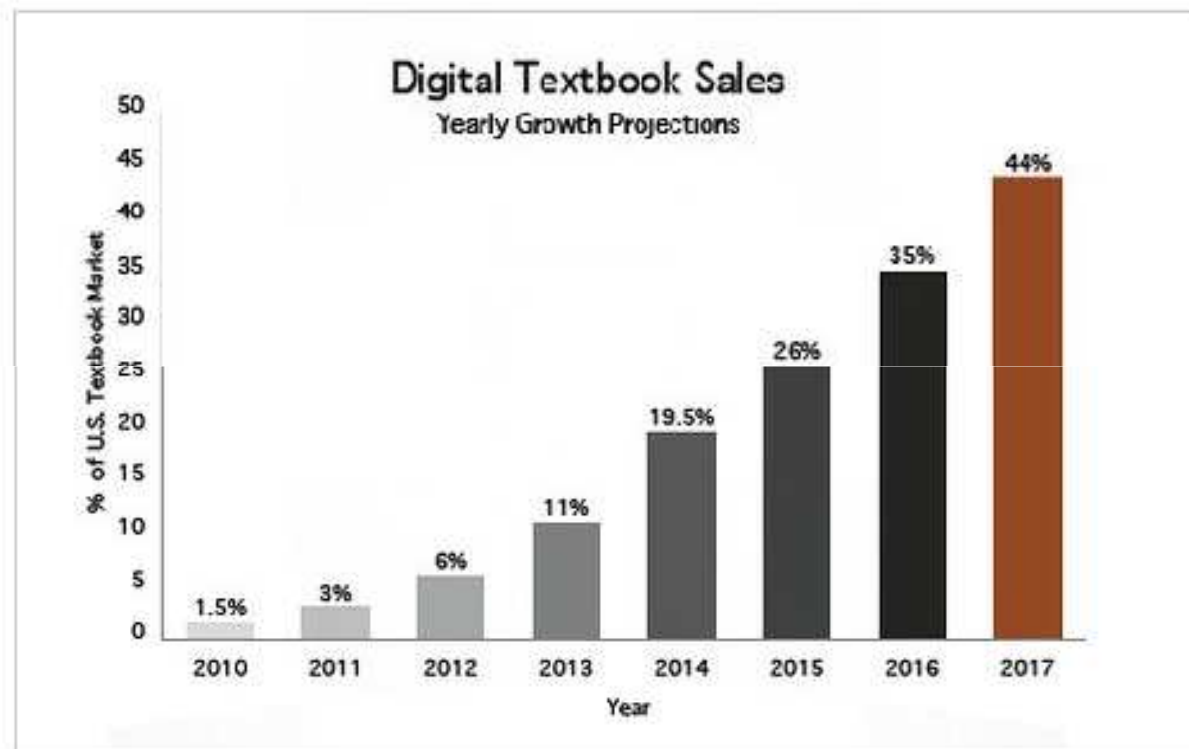
Reynolds, R. (2011). White paper: Digital textbooks reaching the tipping point in U.S. higher education: A revised five-year forecast. www.xplana.com

Initiatives

- Open Course Library
  - Matching grant Bill and Melinda Gates
  - College course materials under $30
  - 42 Courses completed

- Next Generation Learning Challenges (NGLC)

- Orange Grove Texts Plus Project, FL

- OpenCourseWare
  - University of Tuebingen
  - MIT 2002

Reinventing Textbooks

iTunes U Course Materials
- Audio and video
- Presentations
- Documents
- PDFs
- iBooks textbooks for iPad
- ePub books
- iOS apps
- Web links

Portable	✗
Durable	✗
Interactive	✗
Searchable	✗
Current	✗
Great content	✓

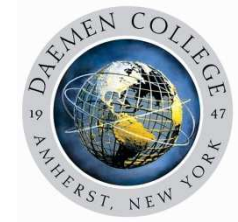|	
Portable	✓
Durable	✓
Interactive	✓
Searchable	✓
Current	✓
Great content	?

Adoption of Technology

- Drivers for change (Chwelos, 2001)
  -Inter-organizational
  -Organizational
  -Technological

- Ownership of technological products tends to stimulate the use of functionally similar products (Atkin & LaRose, 1994)

Hardware Evolution

Usage and Benefits

- e-book types (Polanka, 2011):
  e-textbook, e-references, e-literature, e-monograph (in series)

- Benefits (Gunter, 2005):
  easy to obtain, cheaper, ability to search and annotate, primarily for reference and less for leisure reading
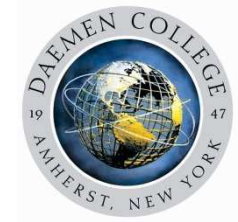
Usage and Benefits

- Advantages and Disadvantages (Jamali, 2009):

    + ability to search
    + online access
    + cost, portability

    - access (time), technical difficulties
    - format, printing, download

Usage and Benefits

- Other aspects (Turner, 2005):

  + interactivity, background info
  + music, animation, hyperlinks
  + maps, 3D technology

  - need computer skills & credit card
 - reliant on technology

Usage and Benefits

- Other aspects (Ardito, 2000):
  + easier to update content
  - quality control
  - cost of the device
  - DRM, download & printing

- Devices (Aaltonen, 2011):
  - e-ink 'rough'
 - response time

Teaching & Learning

- Depends on usefulness, ease of use, interactive content, navigation.

- Motivation is key factor for comprehension.

- Students think technology delivers greater performance, better at masters level (O'Donnell, 2008)

Teaching & Learning
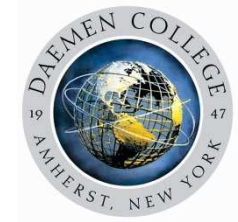
- Positive impact of e-textbooks depends on appropriate integration in learning environment. Skills of instructors. (Sun, 2012)

- Individualizing the learning experience. Improve and explore. Substitute for lectures. Better communication with instructor and among peers. (Arend; Tanguna)
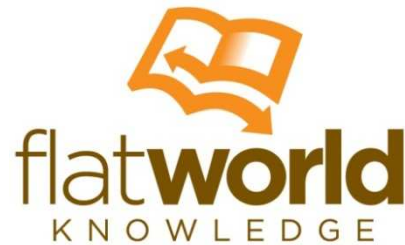
Teaching & Learning
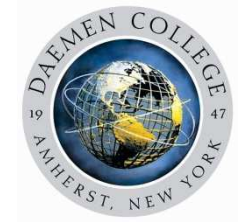
- How do instructors use and introduce e-textbooks? Technology not experienced, effort needed.

- The spoken word and later books were the only way to transfer knowledge.
  What is the potential of this new technology, how should it be used?

E-textbook Providers

CourseSmart
Learn Smart. Choose Smart.
(Pearson, Cengage, McGraw Hill, Wiley…)

flat**world** KNOWLEDGE   (edit)

Chegg *don't buy it*

Kno

MERLOT Multimedia Educational Resource for Learning and Online Teaching

inkling

BioBook

Google books
(20M out of 130M)

Ngram Viewer

Kno

eTextbook: Statistical Techniques in Business and Economics

STATISTICAL TECHNIQUES IN BUSINESS & ECONOMICS
15/e

LIND | MARCHAL | WATHEN
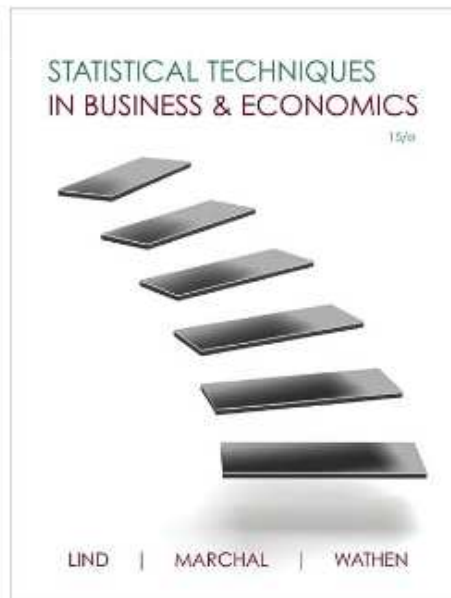
Invite Friends, Get $20
*some titles may not apply

Author(s): Lind, Douglas; Marchal, William
ISBN 10: 0073401803. See all ISBN's
ISBN 13: 9780073401805
Edition: 15
Publisher: McGraw-Hill Higher Education
This is an eTextbook Learn More
15-Day Returns on Purchases and Rentals

eTextbook List Price: $225.00
Rent for 6 months *$102.38
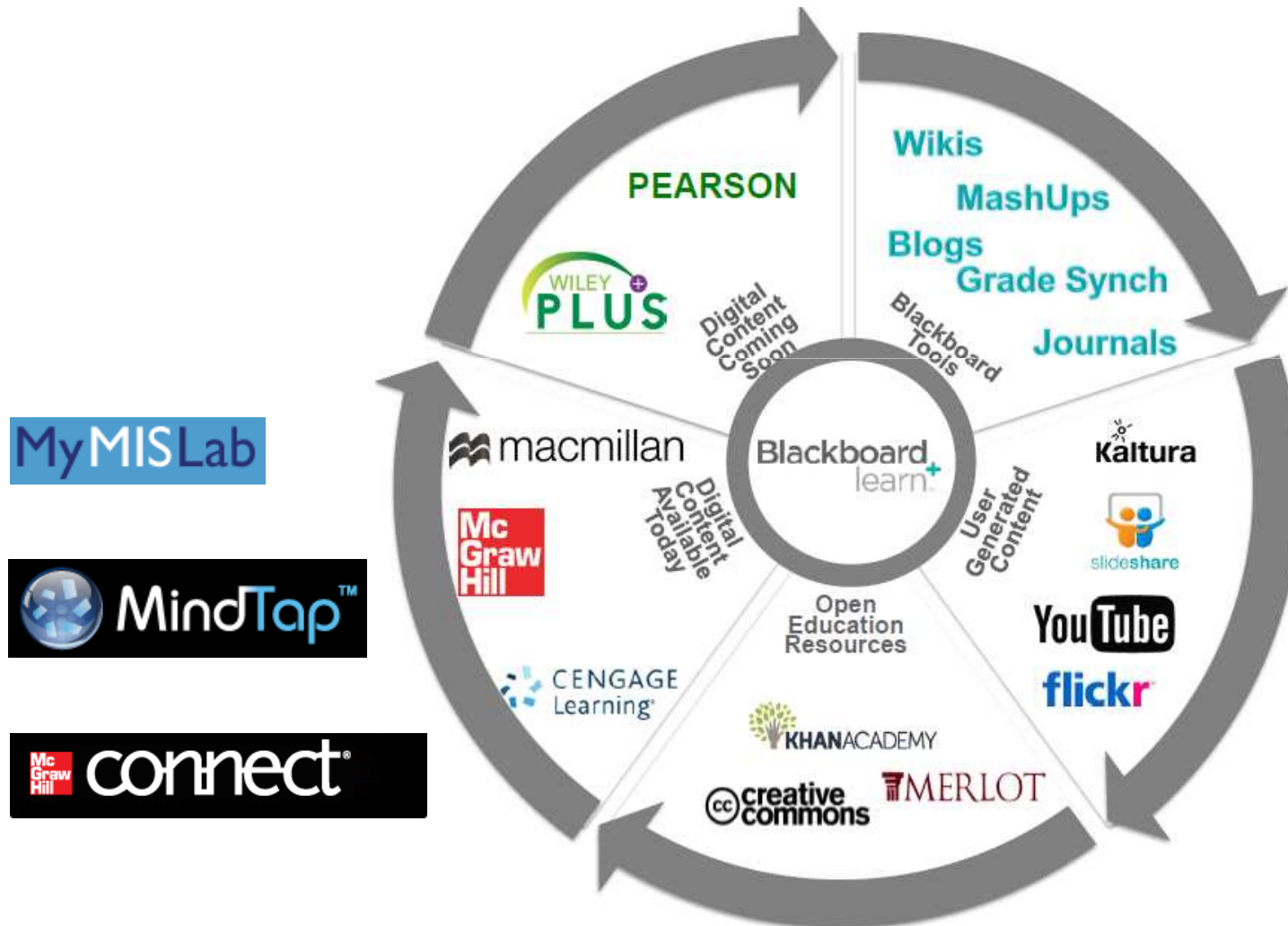
* 6 months - expires 11/28/12
You save $122.62

Rent Now

Prices do not include sales tax, which may apply.

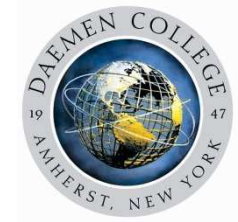List Price: $225.00
eTextbook Purchase: $130.50

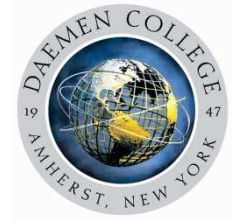**Buy Now**

You save $94.50

Learning Management System (LMS)

Hardware & Costs

- More content was delivered to a variety of <u>mobile devices</u> compared to traditional computers and laptops. (Sandvine, 2012)

- Typical cost of textbooks can be cut in half. (Rickman, 2009)

- Additional cost for tablet computer can be paid for with e-textbook savings.

Focus Group Methodology

- Five to six students in three groups with three facilitators
- 90 minutes, recorded
- Interview Guide
- Qualitative, 'open-ended'

Focus Group Methodology
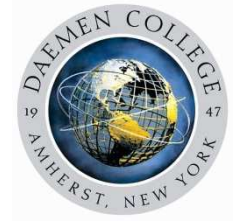
1. Definition of "e-textbook"

2. Where do you see yourself based on time of adoption of technology?

3. Opening:
   - How do you feel about this new world of technology and the way we communicate?
   - What are your thoughts about e-textbooks?

4. Awareness of different textbook options.

Focus Group Methodology
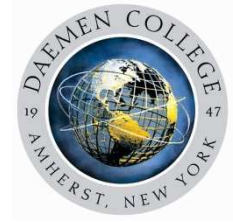
5. Should professors introduce different formats of textbooks?

6. How are e-textbooks being used in your program?

7. Best equipment?

8. Reading from a screen?

9. Impact on learning?

10. Rank advantages and disadvantages

11. Where do you see yourself based on time of adoption of technology?

Focus Group Summary

- Where do you see yourself based on time of adoption of technology?
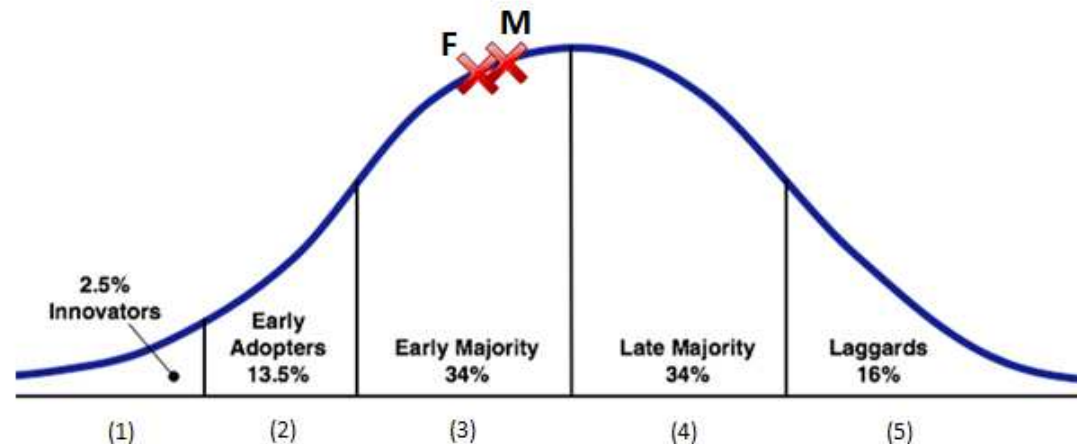
Focus Group Summary

- How do you feel about this new world of technology and the way we communicate?

  + aiding globalization
  + opportunities to sell products
  + communicate with friends ad family
  - privacy
  - less personal interactions
  - no body-language
  - no downtime

Focus Group Summary

- Awareness of different textbook options

  - some limited knowledge about where to buy e-textbooks or if available.

  - all believed that instructor plays key role in utilizing e-textbooks
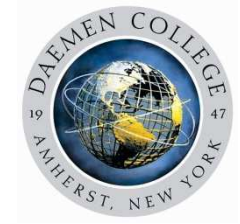
Focus Group Summary
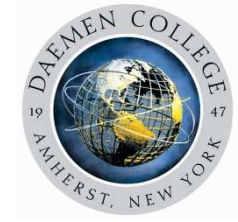
- How are e-textbooks being used in your program?

  - different in each department/course
  - some books come as bundle, required
  - some instructors get irritated when students use computer
  - common to look up definitions

Focus Group Summary

- Best equipment?

  + tablet computer
  + cost ok if used for several classes

  - get tired reading from screen
  - possible distraction
  - limitation due to one screen

Focus Group Summary

- Impact on learning?

  + hyperlinks and videos
  + do not have to ask instructor
  + link to need part of text

Focus Group Summary
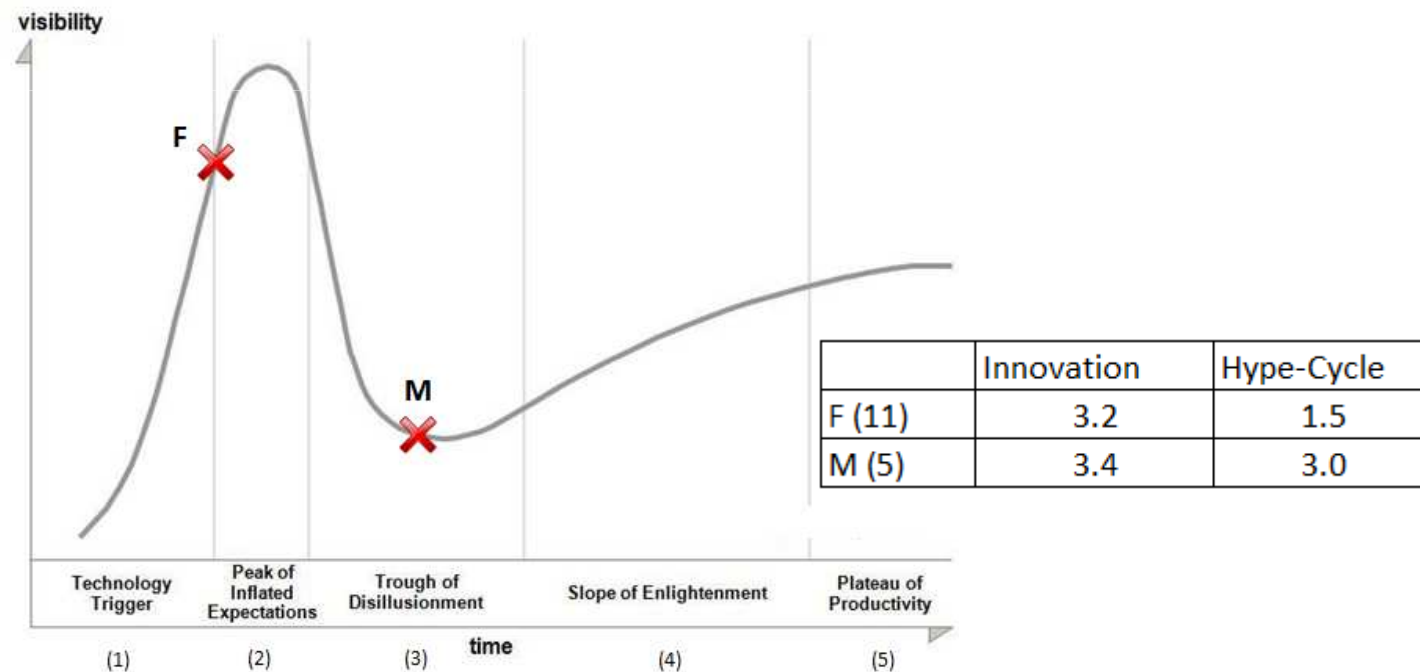
- Advantages/Disadvantages

  + convenient, cheaper, searchable, portable

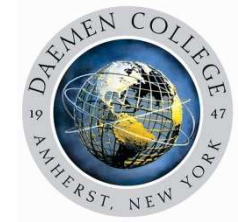 - Internet needed, temporary access, different layout, reading tiring

Focus Group Summary

- Where do you see yourself based on time of adoption of technology? (Gartner Hype-Cycle)

	Innovation	Hype-Cycle
F (11)	3.2	1.5
M (5)	3.4	3.0

Conclusion

- Instructors and course design
- Institutional purchasing
- Content, rights management and hardware
- Technology diffusion models offer framework for assessment

Further research

- Influence of instructor and administration in the process of e-textbook use

- Future of College bookstores and different usage pattern by departments

- How does use of technology in High School influence use of e-textbooks in College?

- Impact on learning