Author(s): Vic Divecha, 2011

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Multimedia, Undergrads and The Library

Use of multimedia in undergraduate student learning and the role of the Library in this process now and in the future

Vic Divecha
May 19th 2011
Today

- Undergrads & Their Challenges
- Innovative Solutions
- Role of Library: Present and Future
- Prevent “Death by PowerPoint”
  - By not using it as a teleprompter for every sentence I speak... except the end.
Distance-learning program grows at SPH

By Kevin Brown

It's nearly 2 a.m. in Japan, time for Tatiana Baranovich to switch on her laptop and join classmates 5,000 miles away for a 1 p.m. Fundamentals of Epidemiology class in Room 2610 in the School of Public Health (SPH) I building.

The graduate student is among 14 other so-called distance-learners, who join 10 on-site classmates to watch and listen to adjunct lecturer Jennifer Beebe-Dimmer for a three-week, accelerated course offered as part of the Graduate Summer Session in epidemiology. Beebe-Dimmer is outfitted with a lavalier microphone and captured on video cameras, lecturing and leading the class.
readiness and completion in the United States. NGCC is guided by the belief that providing investment capital to expand the use of proven and emerging learning technologies, collecting and sharing evidence of what works, and fostering a community of innovators and adopters will result in a robust pool of solutions and greater institutional adoption which, in turn, will dramatically improve the quality of learning experiences in the United States. Many potentially breakthrough solutions are being developed and tested by educators, institutions, technologists, and entrepreneurs, but too often they operate with little access to each other or to opportunities to disseminate their innovations. Support is needed to refine and rigorously test their solutions, to connect with other like-minded innovators, and to develop strategies to broaden their reach and impact.

Today, too few students are ready for college. Consider the following statistics:

→ Nearly 30 percent of students do not finish high school. The dropout rate among African Americans, Hispanics, and low-income students is nearly 50 percent.

→ Only 42 percent of young people who enroll in college complete a bachelor's degree by the age of 26. Just 12 percent complete an associate degree. Among low-income students, the bachelor’s completion rate is just 26 percent, while only about 14 percent earn an associate degree.

→ By 2018, 63 percent of all U.S. jobs will require some sort of postsecondary education.

→ In 2008, the average wage for adults 25 and older with a four-year degree was $60,954, compared to $33,618 for those with only a high school diploma and $24,586 for those with no high school diploma.

→ Nearly 22 million new workers with postsecondary degrees will be needed by 2018, but it is estimated that the U.S. higher education system will fall short of that mark by 3 million graduates.
Undergraduate Education Challenges

- Deciding to Not Enroll
- Developmental & Gatekeeper Courses
- Engagement
- Advising
- Alternative Models of Degree Completion
Undergrads at UM

- ~26000 undergrads, ~16000 in LS&A
- UM doing better than national averages
### Graduation Rates of Freshman Cohorts

#### Four Years After Initial Entry

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**Notes:** Year shown in column heading indicates the year of each cohort's first fall term. Includes Summer/Fall Term Freshmen students (regular and Summer Bridge)
Undergraduate Education Challenges

- Deciding to Not Enroll
- Developmental & Gatekeeper Courses
- Engagement
- Advising
- Alternative Models of Degree Completion
Infusing Technology for Guided Continuous Learning in a Large Gateway Course

Senior Lecturer Brenda Gunderson
(LSA / Statistics)

By carefully selecting and interweaving technologies, instructors can guide large groups of students through challenging material in a way that feels highly personalized. The 1,500 students who enroll in Statistics 250 each semester eagerly engage with a suite of technologies that gives them multiple paths for developing, practicing, and testing their understanding of concepts and relationships.

- **SMART Presentation Tools**: A tablet PC allows the instructor to make the problem solving process transparent and guide students to see connections to earlier material.
- **Lecture Capture Technology (UM Blue Review)**: Students can review recorded material multiple times.
- **Clickers**: Difficult questions are paired with peer discussion.
- **PreLab Video Wrappers**: Brief videos made with Jing teach a software feature or introduce an online learning resource.
- **Online Homework + e-Textbook**: Assignments link to the relevant section of the e-textbook. Paperless homework is submitted automatically and returned quickly with tailored feedback from GSIs.
- **GTD™ Lists**: Posted weekly, the Getting Things Done list itemizes what students can do to be better learners.

Together, these technologies let students discover new ways to understand the material. They can receive appropriate guidance both inside and outside the classroom, so that their learning is continuous, not a set of stop-and-go chunks. This innovation is flexible and readily extendable to many large gateway courses at our university and beyond.

**Student Comments:**

"The integration of technology in the classroom helped make the class feel smaller and more manageable.”

"The pre-lab instructional videos, along with the multiple applets really help you to visualize the concepts.”

The extensive online homework assignments are “convenient to access and require you to both mathematically and visually demonstrate the knowledge we learn in class.”

iTunesU “gives me instant access to explanations of difficult content, a sort of ‘on-demand’ office hours that helps me better prepare for exams.”
Consumers*

*Consumers of Media, Not Customers*
Undergraduates: Happy Media Consumers?

Profiling Undergrads

Key Findings

The ECAR Study of Undergraduate Students and Information Technology, 2010

Shannon D. Smith and Judith Borreson Caruso

I love IT. IT is my life. My laptop is my life. Without IT I would be a very unhappy person. IT allows us to do so many things, and those of us who are natural at it wouldn't be the same without it. So far my experience with IT at college has been a positive one. It's an exciting experience.

I don't like all this digital stuff. I don't like all the problems that come along with computers. I don't really understand most of it, and there's always something new to learn right after you get used to one thing.

—Undergraduate students' comments submitted with this year's survey

Device Ownership

Figure 1. Overview of Technology Ownership

Mobile Ownership Change

Undergrads & Multimedia

Consumers

Generators
Intended Learning Outcomes
for Undergraduate Students at the University of Michigan

As a result of their studies and experiences at the University of Michigan, by the time of graduation students will be able to demonstrate:

1) General knowledge of diverse philosophies and human cultures, the arts and humanities, and the physical and natural world.
2) Mastery of a specific body of knowledge and mode of inquiry.
3) Engagement in the generation of new knowledge in a specific field of inquiry.
4) Effective oral and written communication, teamwork, and problem-solving skills.
5) Capacity to work effectively across diverse philosophies, cultures, and challenges in a global society.
6) Skills for effective citizenship and leadership, and for assuming personal and social responsibilities in a diverse and global society.
7) Ability to set personal learning goals, to critically self-monitor learning styles, and to make adjustments based on progress and achievement.
8) Commitment to the pursue lifelong learning and critical inquiry through postgraduate studies and participation in informal educational settings.
9) Ability to address issues of societal concern and human needs through civic engagement.

The University of Michigan will facilitate student efforts to achieve these outcomes by encouraging the development of courses and other educational experiences that promote student progress in these domains, and by developing and supporting assessment methods that assist faculty and students in measuring progress toward these outcomes.
Engaging Students

Health Management & Policy 615

Paper Writing vs. Podcasting

(2 Cr Course / Final Assignment)
Essentials of Engagement: Storytelling

Please see original cartoon at http://www.condenaststore.com/-sp/I-had-my-own-blog-for-a-while-but-I-decided-to-go-back-to-just-pointless-New-Yorker-Cartoon-Prints_i8546224_.htm
New Yorker, 2005

Media Generation - Engaged Storytelling = Boredom
The Engagement Challenge

[A Vision of Students Today](http://www.youtube.com/watch?v=dGCJ46vyR9o)

http://mediatedcultures.net/ksudigg/
The Library’s Role

Identify Innovations

Lab to Production Line

Support Media Production: Expertise and Spaces

Support Social Collection Management \{Metadata, Tagging\}

Triage Requests \{IP\}

Produce Innovators \{Training / Consultation\}
The Future

Is in the past
Students today can’t prepare bark to calculate their problems. They depend on their slates which are more expensive. What will they do when the slate is dropped and it breaks? They will be unable to write!

Teacher’s Conference, 1703

Students today depend on paper too much. They don’t know how to write on a slate without getting chalk dust all over themselves. They can’t clean a slate properly. What will they do when they run out of paper?

Principal’s Association, 1815

Students today depend too much upon ink. They don’t know how to use a pen knife to sharpen a pencil. Pen and ink will never replace the pencil.

National Association of Teachers, 1907

Students today depend upon store bought ink. They don’t know how to make their own. When they run out of ink they will be unable to write words or ciphers until their next trip to the settlement. This is a sad commentary on modern education.

The Rural American Teacher, 1928

Students today depend on these expensive fountain pens. They can no longer write with a straight pen and nib. We parents must not allow them to wallow in such luxury to the detriment of learning how to cope in the real business world which is not so extravagant.

PTA Gazette, 1941

Ballpoint pens will be the ruin of education in our country. Students use these devices and then throw them away. The American values of thrift and frugality are being discarded. Business and banks will never allow such expensive luxuries.

Federal Teachers, 1950

<< Insert Rant >>

<< Insert Ranting Voice, 2011 >>

The Future
Is in Disruption

Identify
Embrace
Mold
Make It Available
Thank You!
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<th>Number of Users</th>
<th>Percentage of Users Using the Technology to Collaborate in Courses</th>
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<td>Wikis (Wikipedia, course wiki, etc.)</td>
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<td>Online virtual worlds (Second Life, Forterra, etc.)</td>
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Engagement

The Challenge:
Many students cite lack of engagement in and relevance of courses as a reason for poor performance or dropping out. Engagement correlates with improved learning outcomes, including a stronger understanding of concepts, a better retention of learned material, and the ability to apply that learning to different contexts. It also deepens and/or accelerates learning through increased time on task, active learning strategies, and stronger interaction. Deeper engagement has a positive effect on students' persistence, particularly in the first two years of college.

Solutions:
- Faculty and staff at Pennsylvania State University have intertwined the functionality of a course management system with the interactions commonly found in a social networking site in the Penn Open Learning Commons, a platform for online learning. The site allows instructors to combine video, discussion forums, student profiles, blogs, and micro-blogs into course design. Uniquely, the Commons also invites participation from people who are not enrolled in the course, opening the conversation to members of industry and other institutions. After its first pilot, one student reported: "I had never thought about interactions with others, and I thought I would just log in, study, log out, but the interactions with other, amazing, intelligent and insightful individuals from around the world has been a real highlight of the course." 30

- Mentira is a mobile, place-based augmented reality game that helps students develop Spanish language skills. The game is set in a Spanish-speaking neighborhood in Albuquerque where fact and fiction combine with simulated characters, other players, and "local" citizens. Players are required to solve a mystery by investigating clues, visiting "local" neighborhoods, and talking to various characters. 31

- The Wharton School of Business Online Trading and Investment Simulator (OTIS) helps business students master financial management skills by providing them with immersive learning experiences that underscore key concepts taught in the course. Students buy and sell equities, options, and future contracts using real data from the current day's market. Students can then compare their performance with the S&P 500, historical investment returns, and the performance of their fellow students. 32

Additional Source Information
for more information see: http://open.umich.edu/wiki/CitationPolicy


Slide 5: Please see original article, “Distance-learning program grows at SPH,” at http://www.ur.umich.edu/0809/Aug17_09/02.php.

Slide 6: Please see original article on Next Generation Learning Challenges program at http://nextgenlearning.org/the-program.

Slide 7: Original photograph of Diana Oblinger removed.


Slide 9: Regents of the University of Michigan, accreditation.umich.edu.


Slide 14: Please see Educause article, “The ECAR Study of Undergraduate Students and Information Technology, 2010—Key Findings,” at http://www.educause.edu/Resources/TheECARStudyofUndergraduateStu/217334.


Slide 18: Please see original article on University of Michigan intended learning outcomes in the Student Learning Environment section at http://www.accreditation.umich.edu/learn/index6.php.

Slide 20: Please see original cartoon at http://www.condenaststore.com/-sp/I-had-my-own-blog-for-a-while-but-I-decided-to-go-back-to-just-pointless-New-Yorker-Cartoon-Prints_i8546224_.htm

New Yorker, 2005
Slide 21: Image 1 (top left): Please see original image of website banner at http://mediatedcultures.net/ksudigg/.


