Using Technology to Teach about Technology:
Educational Offerings in mHealth and eHealth @ JHU

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Topics to Cover

- Brief Overview of the Global mHealth Initiative (GmI)
- Current course offerings in eHealth and mHealth
- Course offerings under discussion
- Experiences with Voice Thread
- Student service learning and mHealth student internships
At the end of 2011, there were 6 billion mobile subscriptions. That’s almost 86% of the world’s population. 4.5 billion subscriptions are in the developing world alone.
in addition

There are 4.2 billion texters worldwide.

That’s 5 times the number of Facebook members.

6.1 trillion texts sent worldwide each year.

Source: Tippett.org
**Mission:**
To improve global health by developing and advancing appropriate and effective uses of mobile information and communication technologies through innovative mHealth applications, evidence-based research, program evaluation, and advocacy.

**Vision:**
- Capitalize on engineering, IT and population-based research strengths
- Develop and test novel solutions
- Integrate active research into teaching and learning opportunities for students
- Facilitate and expand collaborative networks across the Johns Hopkins University
Simple, Tangible Goals

- **Drive innovation** by fostering practical problem-solving
  - Interdisciplinary collaborations
  - “Grounded” in field reality
  - “Systems” construction
  - Strong emphasis on evaluation research

- **Educate** - understand the technology, the evidence, and the broader human systems

- **Build capacity and global partnerships** to test and scale mobile ICT where appropriate.
Unique Faculty/Student Opportunities

- Problem-driven / experience-based innovation
  - Domestic and Global Health leadership

- Access to clinical and representative research “field” sites

- Academic Leadership in:
  - Public Health, Medicine, Nursing, Engineering, Business

- Domains of expertise:
  - Evidence, Evaluation
  - Training, Capacity Building
  - Education
  - Deployment at scale

- SUCCESSFUL INTERDISCIPLINARY COLLABORATION
The Three-Legged Stool

- Research
- Service
- Teaching
Current Course Offerings

- E-Health and M-Health: Using Technology to Improve Health to Improve Health in Low- and Middle-Income Course (On-Line Course)
  - Ed Bunker
  - Bill Weiss

- Advanced mHealth Research (On-Site Seminar)
  - Ed Bunker
  - Alain Labrique
  - Betty Jordan
  - Bill Weiss
A Few Brief Definitions...

- **E-Health (or eHealth):** Broadly defined as the application of computers and other information and communication technologies to the business of health care. These “systems” are often fixed in place and usually owned and used by persons working within health organizations (e.g., commercial entities, health systems, governments, or organizations), although in some cases these systems are accessible by individuals within a population.

- **M-Health (or mHealth):** More narrowly defined as the application of mobile devices and technology in health, healthcare, and public health. These can include: cell phones, smartphones, tablets, etc. M-Health health applications and devices are - by definition - NOT fixed in place, although they might rely on a fixed backend infrastructure. Mobile devices can be used by providers AND patients (and other members of the population).
E-Health and M-Health Course

- Evolved from a “Health Informatics” Course co-listed with SoM
- Elective for the Public Health Informatics Certificate Program
- Currently delivered On-Line with the help of Tracy Thompson and CTLT
- Leverages several educational technologies
  - VoiceThread
  - Pod Casts
  - Wikis
- Students undertake several hands-on practical assignments using technology, including a “Journaling” exercise where they are the recipient of an mHealth or eHealth intervention
2012 was the first year!

Directly grew out of the Global mHealth Initiative

Interdivisional, although currently housed within the BSPH
Courses being discussed for 2013 and beyond...

- mHealth “Lab” course where students would get their hands dirty actually developing an mHealth application
- mHealth Current Topics
- Practicum (for a possible mHealth Certificate)
What do we try to teach our students??

“IT’S NOT ABOUT THE TECHNOLOGY!”
- It IS about solving public health problems
- It IS about improving the health system
- It IS about improving the health of individuals

Appreciate that the systems and applications you create need to exist alongside other systems and applications.

Evaluate! (And plan on this from the beginning!) Newer, sexier, faster, and shinier is not necessarily better... you have to provide evidence that it is better.

We would humbly submit that these principles might apply equally well when talking about teaching.
M-Health is not the only technology game in town...

- Health Informatics at the SoM (Dr. Harold Lehmann, Director)
  - Applied Masters
  - Research-focused Masters
  - Clinical Informatics Certificate
  - PhD (Planned)

- Applied Informatics Certificate at SoN (Dr. Patti Abbott, Director)

- Public Health Informatics Certificate at SPH (Dr. Jonathan Weiner, Director)
Experiences with Voice Thread in the E-Health Course

- Very NON-Scientific sampling of teaching faculty, our TA, and students

- Several weeks after the course ended and grades were submitted, I simply asked: “I’m wanting to gather thoughts and impressions about the use of Voice Thread in the eHealth course. A couple of sentences to capture the good, the bad, etc.”
“Using Voice Thread for my Johns Hopkins online course was a great experience and made me feel like I was in a real classroom.... Although I never had face time with the professors or my classmates, I still felt connected to them.”
“...easy for us to collaborate on group projects with other distance students.... It was fun to view and hear the presentations that the other students had created. To hear their voice made me feel like I was in the same classroom as them. It made us all feel connected. That is what I most liked about using VoiceThread."
“Voice Thread as a learning tool/technology was actually quite interesting to work with and provided a way to better interact with classmates as part of an online class. The website is mostly intuitive.... That aspect of user/system interaction is important because sometimes people can be generally opposed to using new technology and/or want to use new applications quickly. VT also provided a way to publically speak, not in real-time, which I think may have been enjoyable to students who enjoy giving verbal presentations....”
“...I think what I disliked the most about VT was that the website experienced an unscheduled maintenance right around the time students were trying to submit the final presentation. The interruption caused a bit of anxiety and angst. Also, if students are not encouraged or told to check back on their VTs then students that bothered to leave feedback (via VT or text) would not hear back; which defeats the point of increasing interaction. The third drawback of the VT is not actually related to VT; however, students in the eHealth/mHealth course had to check http://distance.jhsph.edu/, the Welch library, and external websites to gather information related to assignments and lectures so this just added another site that we needed to interact with to keep up with the course.”
“Provides a space to share and collaborate using technologies online students are familiar with: photos, slides, headsets with mics, text chat, etc. What is new or unique is the ability to combine these technologies at the same time.... A great way for individual students and student groups to develop projects to share with a class.”
“I found myself very engaged by Voice Thread... kind of like a Wiki on steroids.... The technology worked as it had promised, but I approached it with a ‘Field of Dreams’ mentality: If we provide it, they (the students) will use it. To a certain degree they did use it, but when it came to the final assignments I didn’t see evidence that students commented on OTHER students’ assignments.”
“VoiceThread is an engaging tool to increase student participation in lectures....it more closely mimics the dynamics of classroom learning than a standard online lecture. VoiceThread is very user-friendly, and none of the students in our class had technical difficulties in creating their own presentations or commenting on other presentations.”
Summary of Voice Thread Comments

- It seemed to provide some “connection,” something that is a challenge in on-line courses.

- My respondents referred to the way that Voice Thread made them feel

- It is still early days. We’ll need to see if Voice Thread fully delivers on its promise of facilitating engagement.
Engaging Students Outside the Classroom!
Over 30 faculty and nearly 200 students spanning the
School of Medicine
School of Nursing
School of Public Health
School of Business
School of Education
School of Arts and Sciences
and more
Affiliated with Jhpiego, Applied Physics Lab, and other Centers

Works with global and national agencies such as the mHealth Alliance, WHO, United Nations, and the NIH
GMI Student Internships this summer

Kelsey Zeller - mPower Health - Bangladesh - 6 months
Beth Linas - GSMA - South Africa - 6 weeks
Sophia Magalonas - GSMA - South Africa - 6 weeks
Shreya Pereira - WHO - Geneva
Youngji Jo - WHO - Geneva
Shreya Pereira - Bangladesh MOHFW - 12 weeks
We provide opportunities for students to work together in innovative ways and test their ideas in the real world.