

INFORMATION TECHNOLOGIES COMMITTEE  
MINUTES OF MEETING  
FEBRUARY 1, 2011  
Morrill Hall Room 238A

[In these minutes: committee business]

[These minutes reflect discussion and debate at a meeting of a committee of the University of Minnesota Senate; none of the comments, conclusions or actions reported in these minutes represent the views of, nor are they binding on, the Senate, the Administration or the Board of Regents.]

PRESENT: Ted Higman (Chair), Stephen Cawley, Micah Haber, Billie Wahlstrom, Pam Solvie, Yuk Sham, David Arendale, James MacDonald, Paul Rubenis, Allison Jacobsen, Craig Hohn, Mary Vavrus, Bonnie Westra, Benton Schnabel, Sue Van Voorhis, Brent Larson

REGRETS: John Butler, Judd Dudgeon, Myron Lowe,

ABSENT: Aaron Doering

OTHERS ATTENDING: Ann Hill Duin, Associate Vice President of OIT, Brad Cohen Interim Director OIT Collaborative for Academic Technology Innovation, J.D. Walker, Manager of OIT's Research and Evaluation Service

Professor Ted Higman called the meeting to order and welcomed those present.

**Impact of Technology on Student Performance and Teaching with Mobile Technology –**

Brad Cohen, Interim Director, Office of Information Technology (OIT) Collaborative for Academic Technology Innovation, and J.D. Walker, Manager of OIT's Research and Evaluation Service provided a power point presentation and discussion. Mr. Cohen introduced OIT's Collaborative for Academic Technology Innovation and provided an outline for the presentation. Mr. Walker stated the mission of his team is to investigate the nature and effects of educational technology as it is used at the University of Minnesota. It partners with units and professors across the campus to run research studies regarding educational technology. He then asked the committee what his team should be investigating with regard to educational technology. Professor Bonnie Westra suggested they should investigate designing online courses that allow students to spend more time learning and less time navigating through the course websites. Mr. Walker responded that one of the problems students often site about educational technology is its "clunkiness." Professor Brent Larson asked, where it makes sense to invest first with educational technology – with large groups or small groups? Mr. Walker restated the question as "What parts of the curriculum are best adapted to the online environment?" He noted that the online environment provides utility for large groups. For instance, it allows for better collaboration. However, he stated that in the her article *Evaluation of*

*Evidence-Based practices in online learning: A Meta-Analysis and Review of Online Learning Studies*, Barbara Means found very few moderator variables (introductory classes, advanced classes, type of student) made a difference in making on-line education more effective. Age was the notable exception to this.

Allison Jacobsen noted some programs are designed to be high-touch with lots of personal interaction like food stamp education and these might be poor candidates for online learning. Mr. Cohen agreed that in high touch disciplines it is more difficult to accomplish course goals in an online environment without substantially rethinking course design. Professor Mary Vavrus asked how writing intensive classes work in an online environment. Mr. Walker stated that anecdotally it works well and cited using iPads to create multi-media digital stories and the emergence of Google as a collaborative writing space. Craig Hohn asked what technologies engage students in learning. Mr. Cohen replied that OIT has been conducting surveys on this topic for the about eight years and they show that students want technology in their courses to be non-gratuitous (connected to their learning goals) and they want it to be multi-media. He stated course design is fundamental to success in teaching with technology.

Professor Higman asked if the research evaluation team works with the individuals at the UNITE remote instructional service. Mr. Walker responded that they do. A conversation ensued regarding some of the difficulties involved with teaching with UNITE including: converting it for use by undergraduate courses, the additional charges involved, and the propensity for some students to get behind in their course work because they bank the lectures.

Mr. Walker next discussed the findings of the research on whether educational technology improves student-learning outcomes. He cited the Means article, the study *What Makes the Difference? A Practical Analysis of Research on the Effectiveness of Distance Education*, Yong Zhao et al., and *How Does Distance Education Compare with Classroom Instruction? A Meta- Analysis of the Empirical Literature*, Robert Bernard et. al.<sup>1</sup> He noted there has been a substantial amount of research in this area, but the outcomes of the research are unclear because it is heavily contextualized. He stated meta analysis helps address this problem. According to Means' meta-analysis, on average online education produces outcomes that are better than face-to-face education. But according to Bernard and Zhao online education sometimes produces outcomes as good as or better than face-to-face education. Mr. Walker noted that by itself technology rarely effects education. It has an effect through other mechanisms, such as making learning activities possible that could not have occurred without the technology. Mr. Walker stated online education works well when:

- Online and face-to-face modalities are blended,
- There is communication and interaction,
- Instruction is adapted to the online environment, and
- Technology allows more time to be spent on task.

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<sup>1</sup> Committee members were e-mailed copies of these articles prior to the SCIT meeting.

Professor Larson asked how you identify the students that might be left behind by online teaching. Mr. Cohen responded that there is a lot of research around preparing, retaining, and graduating students. And there is an awareness that not all students are prepared to succeed in a technology rich environment. One of OIT's priorities is pursuing academic analytics to earlier identify students with difficulties, determine what the problems are, and how to provide students with resources. Professor Higman noted it is not surprising that outcomes are better when you combine traditional teaching methods with online methods because this translates to spending more time on task. There was a short discussion of whether time on task is an advantage of technology or just something technology facilitates. Professor Westra noted that the way her online courses are structured it forces students to be more obvious about the time spent on task.

Next, Mr. Cohen turned to the topic of mobile teaching and learning. He stated that Universities are in danger of falling behind students' experience with mobile technology. He noted that in 2008, 10.2% of students used mobile devices daily to access the Internet and in 2010, 43% of students used them. He stated the ubiquity and power of mobile devices are reasons educators should be concerned about mobile technology. He then asked the committee whether they viewed mobile technologies as important elements of education or "curiosities." Professor Yuk Sham responded that it is a good tool for delivering course information and lectures to students, but the University's webpage is not adapted to this. Micah Haber expressed skepticism that students used their mobile devices for learning. Professor Arendale noted that as part of the iPad project he interviewed students and found that they appreciated the mobility, touch input, and use of specific apps. But he also recognized that many students used mobile devices for social networking rather than education. He suggested this might require instructors to consider whether their pedagogy is sufficiently engaging.

Mr. Cohen stated that going forward his group will be discovering whether and how mobile technology will be useful. They know that it provides ready access to information and convenience. Surveys show that the element students value most about teaching and learning with technology is convenience. He also noted that the environment at the University allows collaborative research and exploration of emerging practices around mobile technology. For instance, the Collaborative for Academic Technology Innovation is working with the horticulture department to create an augmented reality (the layering of virtual information over actual location). Students can use their mobile devices in the field to identify plant species and add and modify content about those species. Another example for using mobile technology is crowd-sourced science such as taking stream samples and recording them in real time on a hand held device. Vice Provost Billie Wahlstrom noted the use of mobile technology in the population sciences.

Professor Higman expressed concern about the consequences for students of the University undertaking initiatives with multiple types of technology such as iPads and Androids. He asked whether the University should settle on a single device. Mr. Cohen remarked that it is difficult to settle on a single device because the market is still volatile. But the object of the collaborative is to create partnerships to explore the research and

offer guidance to faculty staff and students as they explore mobile technology in teaching and learning.

Vice Provost Wahlstrom noted the need to develop standards for etiquette and ethical behavior in the use of mobile devices. One example of this is knowing when permission is needed to record information. Mr. Cohen noted that this is one aspect of a broad fluency that is needed in working with mobile technology. He indicated OIT's collaborative is working with the Libraries on programs to help instructors incorporate technology fluency into their course content. Mr. Cohen and Mr. Walker invited the committee to send them any further questions and to contact them regarding partnership projects.

### **Google Resolution**

Professor Higman reported that he brought SCIT's Resolution Supporting the Rapid Transition to the Google E-mail and Calendar Environment to the Senate Consultative Committee (SCC). The SCC tabled the resolution due to privacy and security concerns regarding the University Health Care Component's (including the Academic Health Center's (AHC)) conversion to Google calendar and e-mail systems. Professor Higman invited Vice President Steve Cawley and University Privacy and Security Officer Ross Janssen to discuss the privacy and security issues surrounding the conversion to the Google e-mail and calendaring environment in the Health Care Components (HCCs). Vice President Cawley stated he is responsible for overall IT security and Mr. Janssen is the system officer responsible for protected health information university-wide. Vice President Cawley stated that OIT is committed to moving the HCC to Google, and a meeting was recently held to prepare the plan for this. He noted there are additional technologies being implemented to protect protected health information (PHI) flowing through e-mail, and a policy was approved by the Health Insurance Portability and Accountability Act (HIPAA) steering committee to make it clear that PHI email is not allowed. Vice President Cawley noted that Mr. Janssen is the only individual who can grant exceptions to that policy.

Mr. Janssen provided background information to explain the perception that the HCC could not convert to Google due to privacy and security concerns. He stated that after the University entered into its contract with Google for the provision of e-mail services and Google Apps, it was discovered that HIPAA required the University to have a business associate agreement with Google in order to put PHI into the Google systems. Google, however, was unwilling to enter into a business associate agreement. The University decided to transition to Google without the business associate agreement. But it held back the HCCs of the University until an assessment of HIPAA compliance with Google was completed and alternative controls were in place. One of the controls being implemented is a system that will filter communications before they reach Google.

Professor Higman asked if the University is the first institution to move to Google. Mr. Janssen responded the University is the first institution to use Google as its sole email and applications service in its health care components. Other universities are utilizing a legacy system in their health care components. If they are using Google throughout their

system they have a policy of no PHI in e-mail. For instance, Brown Medical School is using Google with a no PHI e-mail policy. Mr. Cawley noted that the Google contract includes all the privacy protections that the attorneys and auditors requested and he is comfortable that Google is as secure as the University's own environment. But he stated despite the protections that are in place, HIPAA regulations still require Google to acknowledge it is a business associate subject to Health and Human Services regulations. Mr. Janssen explained that a business associate is a technical term created by HIPAA regulators. In order for the University to share health information with an external entity that provides services on behalf of the University, there must be a written agreement that the entity will comply with HIPAA. Google will not sign a Business Associate Agreement indicating it will comply with HIPAA.

Vice President Cawley explained the filtering technology that the University is putting in place to insure compliance with HIPAA whether or not Google is a business associate. The filtering software identifies PHI and prevents it from going to Google. It sends it to a drop box that sends an e-mail to the individual who sent the protected information. Mr. Janssen further explained that the software maker specializes in the health care industry and supports other health care providers. But he noted it would remain a challenge to filter information related to research. Vice President Cawley stated the technology is in place today and will be operating in early February. He stated further that the University's policy is that no PHI may be transmitted in e-mail; however, there are some exceptions to this. It may therefore be necessary for individuals who fall within the exceptions to use a "fat client" like Thunderbird to send e-mail containing PHI. Professor Sham asked if this was a long-term solution. In his response, President Cawley provided additional context for the situation. He stated that the HIPAA regulations exempt "conduits" like the U.S. Mail from entering into business associate agreements in order to transmit PHI. Google is arguing to federal regulators presently reviewing the issue that it is a conduit like the U.S. Mail and should be exempt. Vice President Cawley explained that either Google will receive exempt status or it will sign a business associate agreement with the University. In the meantime, the University is implementing a strategy so that it can use Google and comply with HIPAA whether or not Google wins its exemption argument. He explained further that the University has performed the necessary due diligence and has the appropriate security measures and legal protections in place to protect its data. Mr. Janssen explained that the policy regarding PHI in email would be clearly defined and provided to users.

Professor Sham asked how the University controls transmissions of PHI entering the University. Mr. Janssen explained that the University is not responsible for PHI sent to the University. It is only concerned with securing PHI once it enters the University. Professor Westra asked if there were security issues involved in using Google Docs. Mr. Janssen stated that issues exist with any cloud-computing technology and it is important to insure that everyone with access to the documents has authorization. He further noted that the list of users who can send PHI is manually configured, and there is a process in place for granting exceptions.

Professor Higman asked when UMCAL would be turned down. Vice President Cawley responded that the goal is to shut it down by the end of June so that the University does not have to renew its license with Oracle. He also noted that the AHC is on a different calendar system and it will remain in place until issues with Google are resolved.

Mr. Janssen noted that OIT would be updating the training about health information and technology. It recognizes that the administrative and technical controls must first be in place and then the HCC will be ready to move to Google.

SCIT decided not to pursue its Resolution Supporting the Transition to the University of Minnesota Google E-Mail and Calendar Environment.

Ann Hill Duin, Associate Vice President of OIT, provided the committee with copies of OIT's annual report *2010 In Review*. She noted it showcases OIT's key projects and initiatives in a time-line format.

Hearing no further business, Professor Higman adjourned the meeting.

Dawn Zugay  
University Senate Office

Follow Up: Mr. Janssen provided the following information subsequent to the SCIT meeting.

Since the SCIT meeting, I received clarification from the Department of Health and Human Services on the issue of whether SaaS vendors like Google are Business Associates and whether or not they "qualify" for the conduit exception.

We are told that vendors like Google are Business Associates in the opinion of HHS and that they do not qualify for the conduit exception.

Please let me know if I can provide any other information. It is important to recognize that there are privacy and security issues raised by this type of technology, but it is equally important that we communicate our strategy for mitigating the risks.