Innovative Instructional Technologies

March 19, 2014

Minnesota State Colleges and Universities

The Minnesota State Colleges and Universities system is an Equal Opportunity employer and educator.
Charting the Future: Recommendation 4

Expand the innovative use of technology to deliver high-quality online courses, strengthen classroom instruction and student services, and provide more individualized learning and advising.
Online courses and programs
The evolution of MnSCU's online presence

- 1997-2000 - Minnesota Virtual University
- 2001-12 – MinnesotaOnline
- Currently: www.mnscu.edu
20% of courses are online or blended

10-Year Trend: Online, Blended and On-campus Course Sections

<table>
<thead>
<tr>
<th>Year</th>
<th>Online course sections</th>
<th>Blended course sections</th>
<th>On-campus courses</th>
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<tbody>
<tr>
<td>2004</td>
<td>2,456</td>
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<td>2005</td>
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<td>2013</td>
<td>11,495</td>
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</tbody>
</table>
Students...

Mary Beth
"You actually are getting the same material as the students who are on campus."

Jon
"The online option was something that really worked for me."

Deb
"I've been raising a family for many years and I just wanted something totally new."

Frank
"It worked for me because of family."
Quality focus
Deliver high-quality online courses

- **Quality Matters**
  - Faculty-centered peer review of online and blended course design
- **Minnesota Online Quality Initiative**
  - Northland Community & Technical College
  - MSU, Mankato
  - 750 faculty trained in QM review process
  - 92 faculty are certified peer reviewers
135 QM-certified courses to date
Why Quality Matters?

“Before Quality Matters, I thought my courses were good. Since I’ve gone through QM, now my students think the courses are good.”

Al Erdahl - Biology Instructor, Riverland Community College
2013 Board of Trustees Educator of the Year
Classroom instruction
Technology in our classrooms
Technology-enabled collaboration

**Using and Calibrating pH Meters**

**Introduction:** A pH meter is a simple voltmeter measuring hydrogen ions through a very thin porous glass bulb.

- Voltage is converted to pH using a standard pH solution and a standard curve.
- Probes - can vary depending on use and meter (ion selective, reference and thermocouples)
- Temperature - Temp can change the activity (H⁺ conc) and the probe function and may need to be taken into consideration.

**Cautionary Notes**

- Use a two pt calibration for most uses. pH 4.0 or pH 7.0. Pick the range for your pH.
- Never use probe to stir, let sit on bottom of container or let the stir bar touch it.
- The probe should be suspended.

**Preparation**

- Inspect Probe: look at bulb for intactness
- Look for filling solution - if less than half way it should be filled. Not all probes use same material - ask instructor
- Look for the probe to be connected to meter

**Taking pH Measurements:** If measuring immediately:

- Use pH 4 and pH 7.0 buffer solution to calibrate the probe.
- Set the meter to the appropriate range.
- Immerse the probe into the solution and wait for the reading to stabilize.
- Record the pH reading.

**Finishing Up:**

- Follow the manufacturer's instructions for cleaning and storing the probe.
- Replace the buffer solutions as necessary.

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**Contents**

- Using and Calibrating pH Meters
- Introduction
- Cautionary Notes
- Preparation
- Taking pH Measurements
- Finishing Up
- Troubleshooting
Lecture Capture 101

everything you wanted to know about lecture capture but were afraid to ask
Simulations
What MnSCU students expect

- Personal laptops
- Multiple devices
- A single sign-on for everything
- Abundant computer labs
- Access to all services online
- Wireless everywhere
- Technology-rich content
- Program and graduation planning tools
Better learners, more capable grads

64% of WSU alumni reported in 2012 that Digital Life and Learning led to the development of computer skills that exceed their co-workers'.
Technology-enabled collaboration
Bemidji State professors, BSU student and industry experts bring Euroshop to classroom through a realtime virtual field trip from Dusseldorf, Germany to Bemidji, MN with Google glasses and iPad mini.

Danika was the winning designer in a contest that earned her an all-expense paid trip to Euroshop2014.
Collaborative programs

Distributed Learning in Teacher Education (DLiTE)

OUR SPRING COHORT IS FULL

Apply NOW for Fall 2014 which begins August 2014

Think full circle.
THINK MANUFACTURING.
Individualized learning and advising.
Individualized Learning
Individualized student support

- Predictive analytics
  - Instructors: timely information on students at risk
  - Students: early feedback from instructors
  - Student support staff: data about student needs for out-of-class support
  - Advisors: a more complete picture of student interests and performance
Would you like to chat?

Minnesota State Colleges and Universities

An associate is available to help. Would you like to start the session?

Yes  No
Kristi (Responding)

Kristi: Hi, my name is Kristi. How may I help you?

John O'Brien: Good afternoon. Where are you located?

Kristi: Hi John, This support center is open seven days a week - and located in northern Minnesota.

Kristi: How can I help you today?

John O'Brien: A colleague was asking me if there were any online programs related to graphic design...

Kristi: Let me do a little research - Hold on please.

Kristi: There are several online programs - Do you know if they are looking for a certificate, diploma or associates degree?
SWOT Analysis

**Strengths**

- Systemwide catalog of online offerings
- Online course enrollments
- Quality Matters established
- Solid technology infrastructure (systemwide D2L license, hosting)
- Online student services in place (registration, tutoring, helpdesk)
- Centers of excellence and models for innovation

**Weaknesses**

- Little coordination in program and course development
- IT resources and strategic placement on campuses
- Need to address new technologies, new markets (mobile; instructional gaming; out of state and international)
- Lack of individually tailored instruction
SWOT Analysis

Opportunities

• Address several CTF goals
  • Collaboration in curriculum development and academic planning;
  • Competency certification
  • Online and classroom-based teaching
• Online and blended could be key in metro baccalaureate strategy
• Deliver high-quality, high-need programs statewide
• Develop virtual centers of excellence
• Individualized learning

Threats

• Need for new investments in technology, infrastructure, and training
• Need clear purpose and strategy
  • Develop new markets
  • Only in Minnesota?
• Lost market share/reputation if we fall behind
Questions

- What developments are most promising?
- What is most concerning?
- As Charting the Future moves forward, what else should we be exploring?